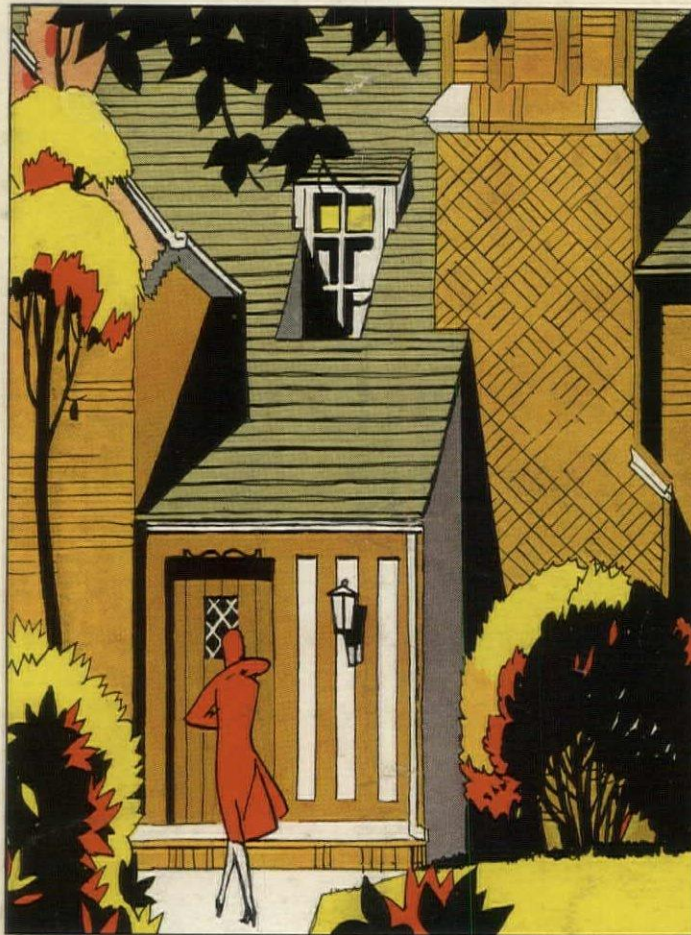


# THE SMALL HOME



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# Concrete Masonry for Fine Homes

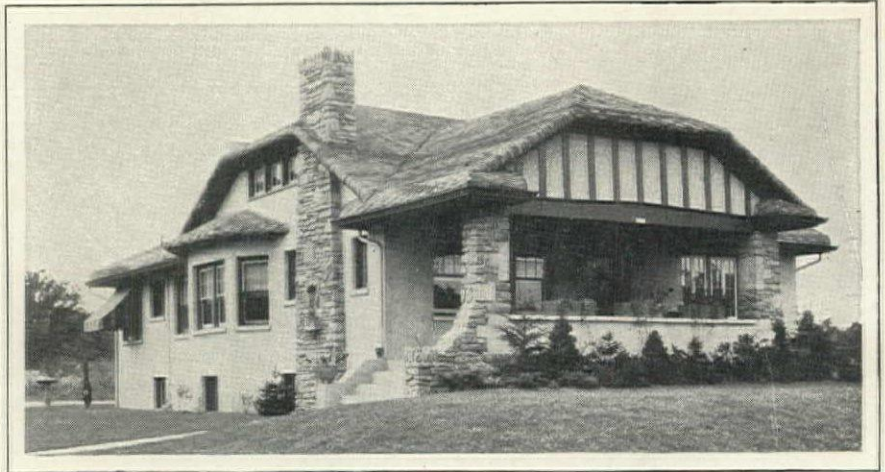
## Facts for Those About to Build

ACTUALLY, what is "concrete masonry"? This thoroughly modern building material is the subject of country-wide interest and inquiry. Wherever finer homes are being planned and built, it is a topic of conversation.

Entirely new and distinctive architectural motifs are making their appearance. Radical, yet pleasing, departures from age-old precedent are causing most favorable comment. Few developments in building materials have contributed so noticeably to a new and higher standard not alone in beauty, but in the more substantial elements of strength, permanence and fire-safety.

But, first, what is "concrete masonry"? Fundamentally, it is concrete made into standard units, commonly called concrete block, or concrete building tile.

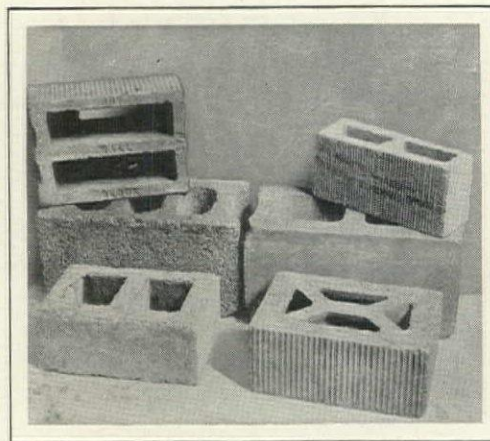
The manufacture of these units is a specialized industry, well-organized and thoroughly reliable. Concrete masonry units are made by mixing portland cement with water and other suitable materials such as sand, pebbles, crushed stone, cinders, burned shale, or slag. These



*Home of John Clopmeyer, Cincinnati. Concrete masonry walls, with portland cement stucco exterior. Designed by the owner.*

materials are called "aggregates." The units are available in every part of the country.

Several of the more frequently used concrete masonry units are illustrated in the view below. It will be seen that these units are



hollow. Consequently, when built into a wall, they provide the *hollow wall* type of construction so much desired.

Definite sizes are maintained. In concrete block, the standard size of 8 in. by 8 in. by 16 in. is most widely used. Laid up by the mason in a single thickness, it produces a wall 8 inches thick, and courses 8 inches high. Standard size block of other dimensions, however, are available. Concrete building tile are smaller and lighter than concrete block. They contain more air space. Tile are usually 12 in.

*The illustration at the left shows some of the commonly used concrete masonry units.*

# P O R T L A N D      C E M E N T

## C O N C R E T E      F O R      P E R M A N E N C E



long and 8 in wide, with height ranging from 3½ in. to 5 in., as desired. Each unit is molded to *accurate dimensions*.

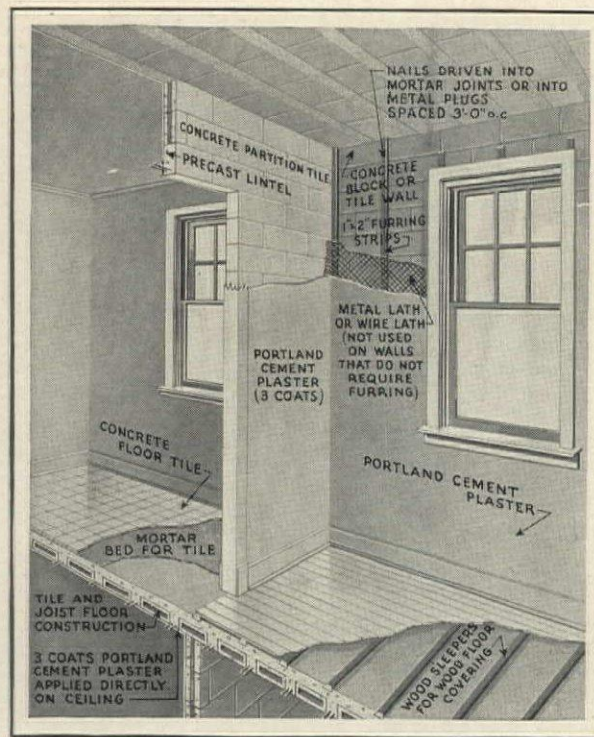
The hollow wall characteristic of concrete masonry is responsible for a large share of its popularity as a building material. This dead air space in the block or tile effectively insulates the wall. Extremes of temperature do not easily penetrate this space, nor does sound or moisture.

Another advantage of concrete masonry is rapid construction. The large, uniform-sized units require minimum handling. Walls go up quickly—and any labor economy is always welcome to the home builder.

Whether the house planned be large or small, these advantages of concrete masonry are equally in evidence. Concrete masonry creates an atmosphere of substantial dignity by which the good judgment and character of owners may safely be measured. It is fire-resistant and permanent. Upkeep expense is practically nil. And along with its economy it adapts itself to the widest range of beauty in architectural treatment.

In many instances the wall is treated frankly as a masonry wall, with the mortar joints visible. This

*This diagram shows the details of concrete masonry wall and floor construction in a firesafe home*



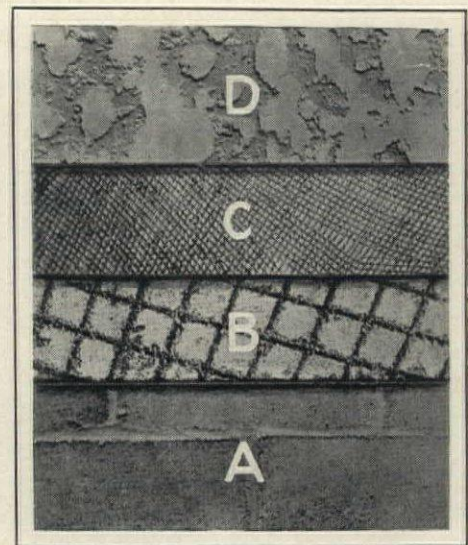
treatment is very pleasing when in complete harmony with the architectural motif.

A wide range of exterior finishes is at the builder's option, through the variety of color and texture available with portland cement stucco. Concrete masonry walls form an ideal base for the stucco, the surface of concrete block and tile being sufficiently rough to assure a perfect bond. In fact, so closely does the stucco unite with the masonry that it is practically impossible to separate the two materials. These advantages have created a growing preference for portland cement stucco as an exterior finish.

Portland cement stucco mel-

lows, with time, into the soft tones so greatly admired in structures abroad. Or, with the use of different pigments, it remains gay and colorful year after year. Pleasing reds, blues, yellows, greens, browns—for accent or contrast—or numerous soft tints, all can be produced by the use of non-fading mineral pigments. The result is a permanently beautiful house, charmingly blended in texture and color to harmonize with its surroundings.

Before you build get all the facts about concrete masonry. Write for our illustrated literature on this interesting subject.



*This illustration shows the successive coats of stucco applied to a concrete masonry wall. To a concrete masonry wall (A in the picture) is applied a "scratch coat" (B) 3/8" thick. After this coat hardens a second coat (C), also 3/8" thick, is applied. The finish coat (D), 1/8" to 3/8" thick, depending on texture, is applied after the second coat has hardened.*

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# THE SMALL HOME.

FINANCING • PLANNING • BUILDING

ROBERT T. JONES, A. I. A., EDITOR

SAY the pessimists, "Although you can buy a better car today, in some cases 100% cheaper, than in 1904, yet the average small home is 127% dearer." But, adds Mr. Walsh—by implication—cheap at the price. For today we have luxury where formerly barely comfort existed, and conveniences of which the home owner of a quarter of a century ago never dreamed. As for any decrease in the number of individual homes which these same pessimists predict, well, Mr. Walsh can't see it, and after reading the statistics with which he enriches his article in December, neither can we. Oh, it's a rosy future which he paints for the small home. Individual homes out of standardized parts is another feature upon which he touches.

In the same issue Miss Howe writes on planning the small house, planning it to achieve the convenience and efficiency which is the latest step in the evolution of the dwelling. Shelter, protection, privacy, comfort, convenience; so runs the sequence as Miss Howe gives it, but efficiency is her theme—



and who that is interested in houses isn't interested particularly in this phase?

One of the ways of achieving convenience in the house is through the use of built-ins. Next month Miss Hulser tells us what to have and something of what to do with them when we do have them; all these corner cupboards, window seats, cabinets, bookshelves, and the less ornamental but even more useful kitchen fixtures.

Of course the greatest conveniences of our modern homes are due to the plumbing and to the heating. Mr. Fansler continues to write for us on the subject of heating. In his series Mr. Jones takes up the subject of plumbing—what goes into the house, when it goes in, and where.

And there are other things, including house plans, several of them, in December. November is the legitimate time for thanksgiving anyway, and so we count not least among our blessings the many good things we have in store for the December issue.

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## WHERE HOUSE ENHANCES LOT

*Rough-hewn Materials and  
Irregular Roof Lines Recall  
the Unevenness of the Lot*

W. S. MATTHEWS, ARCHITECT



Photograph by courtesy Vendor Slate Asso.

*A lot of irregular shape and contour sometimes gives a most delightful effect. The house above rests so easily upon its site that it seems to have always been there and appeared with the outcropping boulders.*

*The house illustrated on the opposite page, placed as it is near the sidewalk, has the advantage of a large, private outdoor living area at the rear. The side yards also have the privacy afforded by the high fence.*





Photograph by Mattie Edwards Hewitt

## THE SITE OF A SMALL HOUSE

*When A House Fits Into Its Surroundings It Is Generally The Result of Careful Planning*

By LOIS LILLEY HOWE

THE site of a house may and should affect its plan. Therefore its position on the lot is to be considered even before the plan is made.

The ordinary suburban lot with which we are unfortunately so familiar gives little scope for anything but consideration of the position of our neighbor's kitchen and parlor windows and the corresponding or alternating positions of our own. The remaining arrangement rests with the possible future of the grounds, and here it would be always well to consult a landscape architect or to make careful study of schemes presented in this or other magazines.

The location of the garage, now almost a necessity to everyone, becomes an important consideration in its convenience of approach from house or street, its appearance, and the amount it encroaches on our lot.

In the type of lot just spoken of there is usually a set-back or restriction which brings the houses all along one line. There may, however, be some question of the depth of the sewer which will determine possibilities of laundry trays or other plumbing in the cellar.

Bear in mind always that a house set low on the ground is more attractive

than one that is high. This is especially true of a very small house. When furnaces "came in," and people began to have good cellars under houses, there was a hue and cry for light and air in the basement and every house was put up from two and a half to three feet above ground. This makes a house look as if it had perched for a brief rest, not as if it had grown in its place or was intended to be a definite part of the landscape. It entails long flights of outside steps to be built and taken care of. There are types of houses which need this elevation and steps for the sake of dignity, but for a small house it is bet-





Photograph by Courtesy Better Homes in America



Photograph by Drix Duryea

ter to hug the ground. The cellar with its furnace and areas around the windows will be dry and light enough.

The garage may be a separate unit or incorporated with the house either as an L or part of the first story. Its place on the site may add to the house by giving it length, or if thoughtlessly located it may ruin the effect and the possibility of charm. This we see around us every day.

As for actual positions of rooms we must consider the points of the compass, the location of the neighbors' windows and of our own. A house may be set with care and thought very close to another and yet not feel that proximity too much from the careful planning of rooms and windows.

It is scarcely necessary to say that a deep and very narrow lot means either a very small square house or a long and narrow one. The latter may be entered by a path to a door in the center of the long side or may have, as is frequently the case, a front door at one side of the street facade like that in a city house. This naturally makes a small room on the other side, a narrow

(Continued on page 34)

*Two houses designed for their particular locations. Above, the land slopes down from the street. At the left, it slopes up from the street.*





Photograph by Mattie Edwards Hewitt

*Here we have an especially well designed small radio. It fits the space admirably and harmonizes with the furniture in the room.*

## MUSIC HATH CHARMS

By MEHETABEL THANKFUL AMSDELL

WHILE it is possible today to have more and better music in the home than ever before, at the same time a curious situation has arisen in regard to the placing and arranging of the different musical instruments in the home. In some cases I have almost come to regard the radio and the phonograph as "outlaw" furniture. This is perhaps due wholly to their being as yet very new in the world, and so busy being born that they have not had time to evolve into their best shape and form.

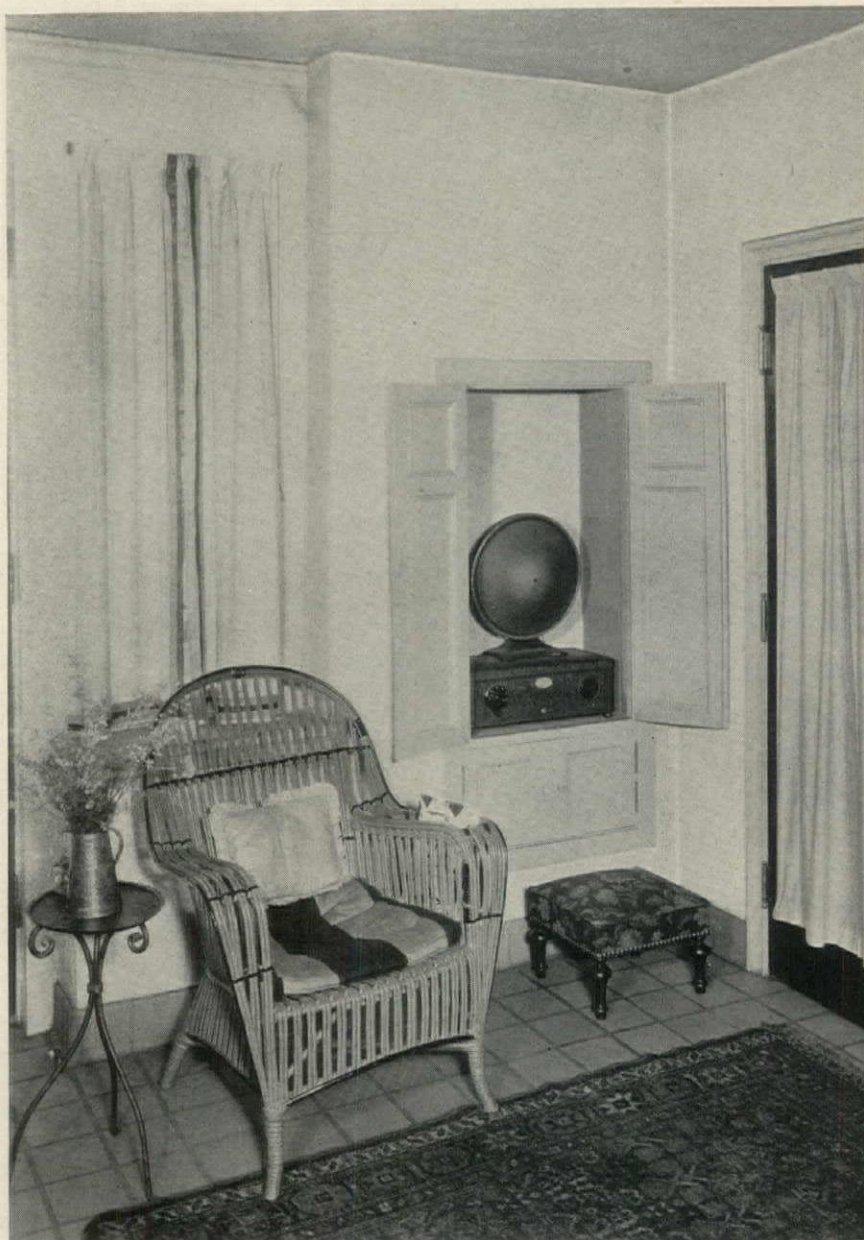
Always we think of the automobile as one of the modern creations that has really achieved a new form supremely fitted to its needs and its function. Those of us who are old enough to remember the first cars that appeared way back about 1900 have seen the present form emerge year by year, and with our musical instruments we are witnessing much the same thing. The radio is of course the baby of them all, and its appearance on the scene has quite upset the well being of the phonograph family just as it was beginning to feel the least bit grown up. With the radio the technical problems are so absorbing, and changes are coming with such breathless haste that there has not yet been time for the shape of this new marvel to take form, but once the mechanical and technical problems are fairly under control we may be sure that the form will emerge and be extremely interesting. Then we will witness real design, a form that is really the outgrowth of the function of the object itself.

With the piano we are confronted with another problem, that of size. No one will question the fact that a grand piano has better tone than an upright, and yet in the arrangement of a room a grand piano offers very real difficulties. To meet this the manufacturers are making smaller and smaller grands, midgets and apartment house models, in which it seems to me inevitable there must be a corresponding loss of tone. There is of course good tone in some grand pianos that are smaller than the large concert type, but many of the very small pieces seem to me to get into the "trick" furniture class, and are just another expression of the very American idea that we can get something for nothing. So at the risk of sounding very old fashioned and very out of the fashion, I should say that the person who has a small living room and who really wants a piano might much better get a good reliable upright than take up valuable space in such a room by using a reduced make-believe grand.

The most satisfactory disposal of a grand is to have a special space for it, either at the end of a very large room, or in an alcove, or in a small room just off the living room. This last is of course the ideal condition. Barring that, unless we have a fairly large room and can have a grand that is really a piano, I repeat that we had better stick to the old upright. It at least does not take up a great deal of room. It gives height to the furnishings, and it can give a very homey touch—all at the price of our having the courage to do what is the best thing under the circumstances even though it may be a bit against the style of the present moment. Only thus can we achieve any individuality at all.

It always seems to me that it is desirable to have the music center of the room at one end rather than in the main circle. This may be only a personal feeling, but it seems more appropriate that way to me. A space at the end





Barber &amp; McMurry, Architects

of the living room would be the first choice always for me. Sometimes at the end of the living room there will be space between the wall and a doorway that will just take the piano nicely, and fortunate is the home that has such a space.

If we are building and know we are to have a piano we should provide in the plans for the proper space for it. Sometimes in a long narrow room where there is a long wall space opposite the fireplace, the piano can be pushed well down to the end of the space, leaving the center free for the friendly grouping around the fire.

The less dressing up a piano gets the better. The space above it will call for a picture usually, and the composition may be completed by a pair of something on the top of the piano. In the flower season bowls of blooms are welcome everywhere, and the top of the piano makes a spot for more life and color.

When it comes to the matter of the radio, here we have an absolutely new medium, a true expression of the twentieth century, so what is more fitting than that it

*Before this house was built the owner and architect planned to have the radio concealed in a closet in the sunroom. The illustration shows the successful arrangement. The closet below is for the batteries. Such a plan makes the radio "belong."*

should be clothed in a modern manner. It seems rather pathetically out of place to see a modern radio placed in a Gothic or a Tudor cabinet. Somehow the two ideas just

don't pull together. With that as a beginning let us not forget another principle of good design—that the radio should somehow belong to the room architecturally, and not be casually dropped in as it too often is. One thing sure, a radio so planned and considered immediately takes on a significance impossible in any other way.

If it is to have real structural quality we may decide to build it in in some way, or at least to build a cabinet to house it. Open bookshelves offer one solution. In planning them space for the radio may be definitely allowed. Or we may go further and put a hinged drop front on the open shelves, making it possible to conceal the radio when not in use and to give a shelf when open. This is more attractive and more interesting than when the cabinet is left open. A thoroughly modern touch was shown in a piece of living room furniture in an exhibit of modern



furnishings in New York this past winter. The radio in this case had been placed in a combination desk and bookcase. The radio space balanced the desk part of the piece, and had its own drop front just like the desk. It was immensely satisfying to look at because it so very evidently and securely belonged.

Individual consideration will of course determine the room where the radio will be placed. The first thought will naturally be the living room, the next perhaps the sunroom, and in addition I suggest that we sometimes consider the dining room, that much neglected and partly wasted space. For the cabinet itself, when we incorporate the radio in the house as we have been talking about, the cabinet can naturally be of the simplest sort possible. If for various reasons we prefer to use the radio as a separate piece, then the matter of a cabinet becomes very important. As with everything else absolute simplicity is the best guide to follow, the plainer and less adorned the case the better. When the dial board and loud speaker are separate,

oftentimes, the two can be incorporated in a table that is of harmonious design. One of the illustrations shows a very successful handling in this way. Some loud speakers are made to hang on the wall. This at least gets them out of the way, but is not very decorative.

The phonograph is even more of a problem perhaps than either the piano or the radio. One difficulty has always been that the usual almost square shape of the case made it hard to dispose of it in a room satisfactorily. There is so much to be said for a phonograph, even today with the competition of the radio, that its importance is very great. We can at least have the music we want when we want it, and to some of us that means a great deal. In the matter of the choice of a case we have less flexibility than with the radio, as we cannot build one in or have one made for us. We have to take what we can find in the market.

With our musical instruments as with everything else we put into our houses the main thing is to strive always to preserve harmony and close relationship between room and furnishings.

*In this well furnished living room we see the radio built into the bookshelves. The radio itself is on one shelf and the loud speaker above. With such a plan the shelves would be spaced to take the cabinets exactly*



Photograph by Mattie Edwards Hewitt

Margery Sill Wickware, Decorator





BUILT FROM BUREAU DESIGN 6-A-17

## SOLID MASONRY WALLS FOR THE SMALL HOUSE

*The Third of a Series Extending Through the Processes of Home Building  
Next Month Continues With the Plumbing*

By ROBERT T. JONES, A. I. A.

NOW what about solid masonry walls? Undoubtedly everybody knows what these are made of—brick, stone, concrete block, poured concrete, and tile blocks. The general principals that govern the construction of these walls are much the same. It goes without saying that the units themselves must be sound, well burned bricks or tile, well cured concrete, stone that is not soft or broken from blasting.

Then there is the mortar with which these units are bonded together. That too must be of sound materials, well mixed and in proper proportions for the

*The walls of the house above are laid in random sizes of native stone just as they came from the quarry. Such a wall will take on new beauties with the passing years.*

work. No one cheapens the mortar without being sorry for it in the end. With loose and crumbling mortar, rain eventually works through, and then there is the added expense of raking out the joints and pointing them again.

Mortar is not a material about which to hazard guesses. A generous portion of cement with well slaked lime and sand that is clean, holding each unit in a full bed, goes far to remove all questions about endurance.

Home builders often ask, "Can we use the sand taken from the basement excavation to mix our mortar?" The answer is "No." If the sand were clean, and if it were known positively that it were clean, and kept so, then it would be all right, but sand that lies near the surface is very likely to have organic matter in it. Black soil, tannin leached



from leaf mold—these are organic. It is nearly impossible to keep some of them from falling into the excavation. If enough of it is mixed with the sand, serious harm is done.

Another thing—masonry walls must not be frozen while they are being built, and for time enough afterward to allow the mortar to set permanently. It is easy to lay a wall, especially the small units, in freezing weather. Contractors know how to do it, but it costs a little more. The contractor who guesses that your wall will not freeze takes a chance with your wall building values. Your specifications should call for protection. Then you have a right to insist that the contractor supply it. This is one of the thousand and one points of superior workmanship, many of which there is not space to discuss in this story.

All of these units make fine walls. As everyone knows, they vary greatly

in appearance. Also, some are much more costly than others. Even with any particular material, such as, for example, brick, there is a wide variation in cost. Some kinds may cost four times as much as others.

One gets added color in the more expensive brick, at least as a usual thing. He gets also rougher textures, but no greater durability than is obtained with the plainer, well burned units. To understand the differences one must see the bricks. There is no short cut to this. And one must see these bricks not as separate units but as built into the wall. And if a special type of bonding is desired that also must be taken into consideration, for it affects not only the general appearance of the wall but there is a marked influence on the cost of laying.

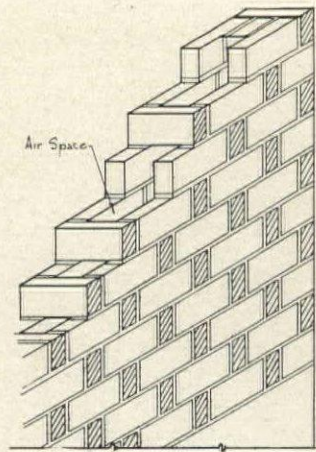
There are many common bricks, not handsome in themselves and not designed for wall facing, but of a cheaper order, made primarily for the interiors of walls, that when well selected and used in an interesting manner give fine effects on the wall as a whole.

To get an idea, then, of relative costs one must know the specific materials to be used. Plain concrete blocks will be less expensive than those with a special surfacing. Sawed stone will cost more than native, rough hewn stone work. Face tile costs more than the wall bearing type that has to be stuccoed. The range of qualities is so great that it is even difficult to generalize.

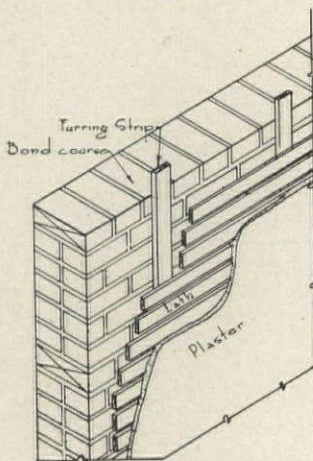
Your architect or your contractor is in a position to give you this information rather readily from his knowledge of local building conditions, materials available, and the kind of wall that is desired.

Each one of these masonry walls has particular qualities that make it more suitable for certain forms of architecture than others. Thus Colonial design with common brick painted is a handsome thing. English architecture, made sparkling by colorful face-brick work fitted into patterns, is a delight to see. Field stones split have made many a Dutch Colonial house famous. Sawed stone, of course, depicts best the formal Georgian house. Concrete and tile blocks finished with stucco may be wrought into almost any architectural design, but especially into Mediterranean types. Textured tile blocks, their surfaces the color of bricks, have, like bricks, their own high merit and place. So we use these materials always to make the most of the architectural forms.

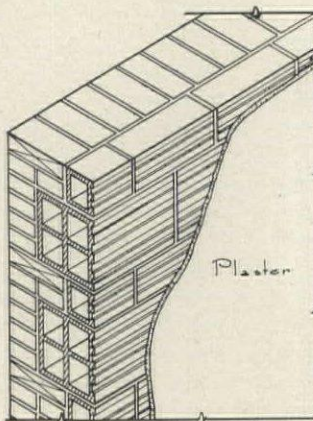
Just one thing more and then I am done. You will remember in my story in the October issue, when we were talking about heat loss through wooden walls, we compared one with insulation with one without it. Now what is the co-



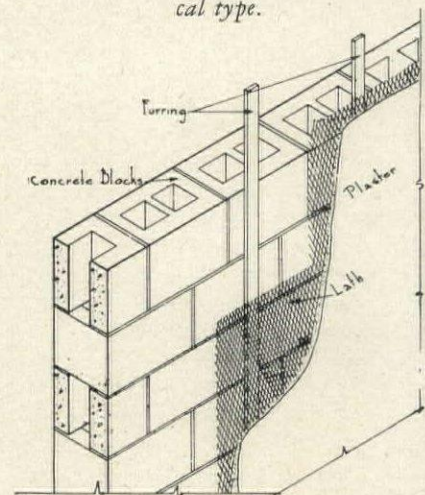
Here is a brick wall built hollow called the "rollock" wall. It may be constructed without plastering or other finish on either surface and is thus an extremely economical type.



Eight inch solid brick wall. The furring insures warmth. This is an excellent wall for superstructures. For foundations the thickness should be twelve inches and furring is unnecessary.



Face brick may also be backed with common brick, tile or concrete block. Broken mortar joints reduce heat losses greatly, making unnecessary the use of furring in most climates.



Concrete block walls are commonly stuccoed on the outside, though selected blocks may be used without surfacing. In cold climates wood furring for plaster saves heat.

efficient of heat transmission for a solid masonry wall?

Again I read from the tables of the American Society of Heating and Ventilating Engineers that the coefficient for a plain 8 inch concrete block wall plastered on the inside is 0.348. But if you put the interior plaster on lath and furr it away from the wall with wooden strips, you get a coefficient of 0.215. Thus there is a saving of nearly one-third of the heat that might be lost through these walls. Once more, if these walls are not only furred, but insulated, that is to say, if they have wood strips nailed all the way along the wall, and also one of the standard forms of insulation, the coefficient is again reduced to about 0.130. Certain types of masonry walls built hollow or of hollow units made and set so the mortar joint is broken show remarkable qualities in

(Continued on page 34)



# HEATING THE SMALL HOME

## III—Why Fuel Must Be Burned During the Winter How Much of It Could Be Saved

By P. E. FANSLER  
Editor Oil Heat

WHEN you start a fire in your heating plant, the temperature of the air in the house is raised above that of the outside air. Immediately heat begins to escape from the house, just as water escapes from a leaky vessel. As a matter of fact, your home actually leaks warm air, and we call this exfiltration. At the same time, due to wind pressure against leaky windows, doors, and even walls, cold air from the outside leaks into the house; this we call infiltration. This air must be heated to the desired inside temperature, and this requires heat. If we could entirely prevent infiltration, there would be no exfiltration, and we could save a lot of fuel during the winter.

The study of heat losses in more than a hundred homes showed that they could be classified as follows:

- (a) Heat loss through walls.....27%
- (b) Heat loss through glass.....26%
- (c) Heat loss due to infiltration....27%
- (d) Heat loss through roofs.....16%
- (e) Heat loss through opened doors 4%

You can see that about 80% of your fuel bill is required to make up for three of these losses. Let us analyze these and see how much they can be reduced.

WALL LOSSES. Suppose that you

had a square furnace pipe extending up through the room. Let one side be covered with a thick sheet of copper, one with wood, 1-in. thick, the third side with a 2-in. slab of cork board, and the fourth side left bare, (Fig. 2). If you had a fire in the furnace and the stack gases were passing up through the pipe at a temperature of about 500°, you know which side of the pipe you'd prefer to hold your hand against. The heat would literally come right through the thin tin, and, if the copper on the second side fitted close to the tin, that side would be just about as hot. You would find the wood comfortably warm, but the cork board would be barely warm to the touch. We say that the copper and tin are good "conductors" of heat, that wood is a fair, and cork-board a poor conductor. The scientist and engineer go a step further and assign coefficients of heat conductivity to different materials, and to walls that may be built up from these materials. These coefficients are exact measures of the value of walls as heat retainers. And, of course, you want the walls of your home to be the best heat retainers possible, taking cost and other vital factors under consideration.

Suppose that you built a home of

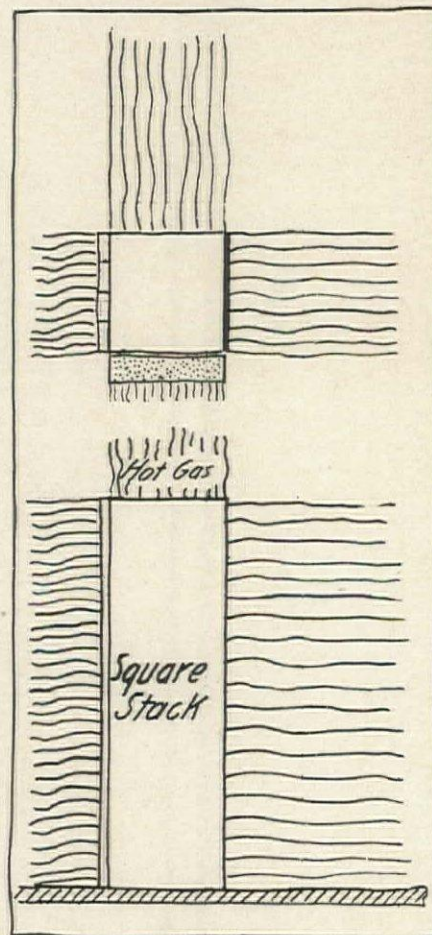


FIG. 2

A square flue (Plan above and section below) carrying hot gas has a copper sheet on one side, boards on another, corkboard on a third, and the fourth side is bare. The relative insulating values are indicated by the radiating lines.

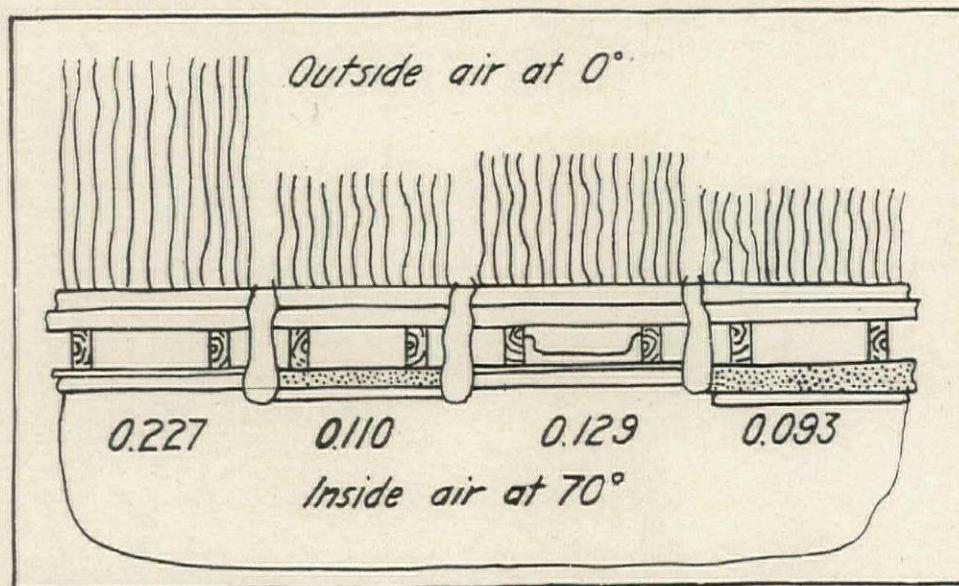


FIG. 1

The relative heat retaining qualities of frame wall construction are indicated by the lines, which represent heat escaping through the various sections. The figures are "heat conductivity coefficients" and tell the same story. The outside of the walls in each case are shiplap over T. & G. siding on 2" x 4" studs. The inside walls, left to right, are as follows: plaster on wood lath; plaster on 1½" corkboard; 1½" quilt between studs and plaster on wood lath; and plaster on 2" corkboard.

frame construction, with a 2x4 frame, with common tongue and groove sheathing on the outside, covered with lap siding and with plaster over wood lath on the inside. The heat conductivity coefficient of such a wall would be approximately 0.227. Don't bother about this as anything but a figure. Let us assume that, instead of lath, the plaster is applied to a 1½-in. cork-board, which is nailed to the studding. The coefficient would be 0.110. What does this mean? Simply that, for every square foot of wall in your home, the loss of heat with the former construction would be almost exactly twice what it would with the latter. I said that the heat loss through the walls of the average house represented 27%, and if your home has an average number and size of windows, you can see that, by putting this layer of material having low heat conductivity in your walls, you could cut in half about 27% of your fuel



bill, or save 13% of it. Or, if you insulated with ½-in. quilt insulation between the studding, using wood lath for the plaster, the coefficient would be 0.129—not quite as heat resisting as with the cork. Another of the modern insulations is a dry flaked gypsum material, and this, used in place of the quilting would give you a coefficient of 0.101, which would be even better than the cork. But you could beat this by using 2-in. cork instead of 1½-in., getting a coefficient of 0.093, which would permit the saving of 60% of the fuel required for the plain frame construction. Corresponding changes can be made with brick, or hollow tile, or stone, or any other kind of walls (Fig. 1).

You readily can see that you can construct your walls to keep in much or little heat and it stands

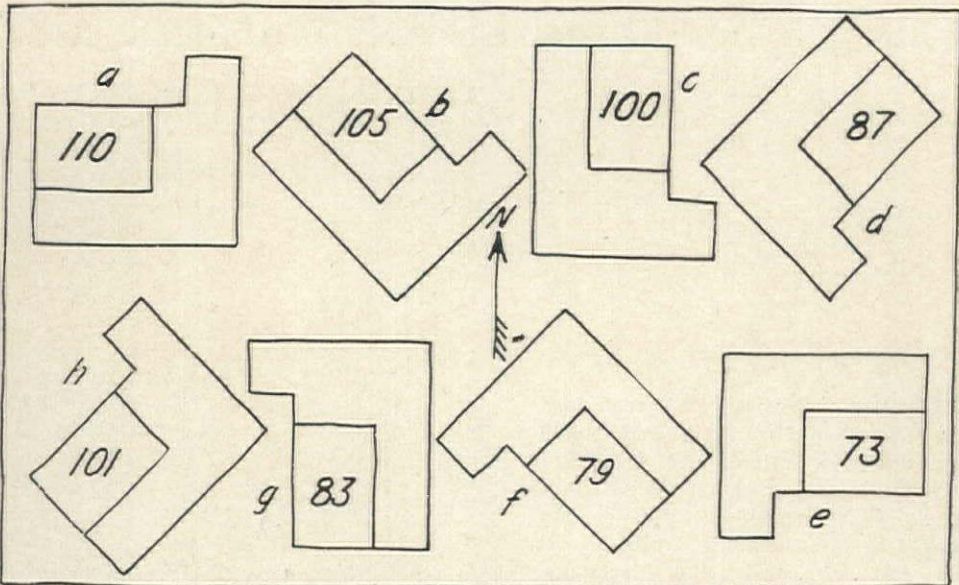


FIG. 5

The figures show the relative radiator area required for a corner room in a house located near New York when the exposure is varied as shown. The room requires 50% more radiation when it faces north and west than when it faces south and east.

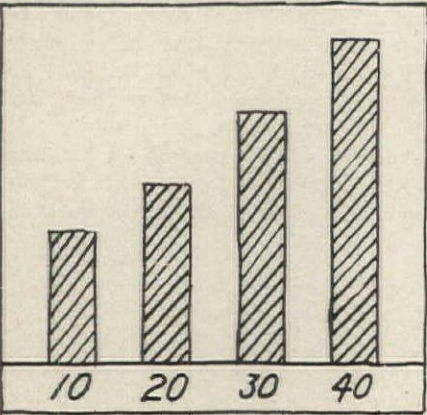


FIG. 3

These areas represent the proportionate infiltration through the crack of a conventional wood window with different wind velocities.

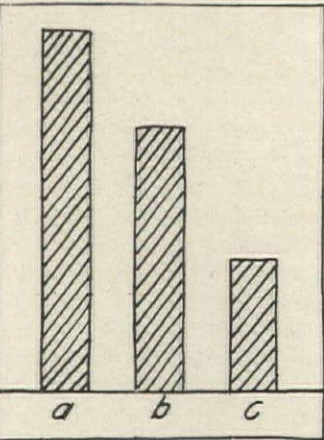


FIG. 4

The areas above show comparative infiltration (a) through cracks in a normal wood window; (b) through the same window and a storm sash suspended on hinges; and (c) through the same window and a storm sash fastened in with buttons.

to reason that the heat-retaining walls are the more costly to erect. So you can, with very simple arithmetic, figure out the cost of fuel required for a house with standard frame construction, and then compute the saving possible with insulated walls. Your contractor can tell you the relative costs with the different walls, and you can determine if the fuel saving will justify the increased cost of more efficient insulating material. You see, it depends both upon the building cost and the cost of a ton of coal or a gallon of oil.

But there is more to the problem than that. If you can spend \$300 on wall insulation alone, and, by so doing, save 12% of the heat loss, you can reduce the size of your heating plant 12%, and apply this saving to the cost of insulation. So, if the heating plant for the uninsulated house was estimated at \$1,250, you could save approximately one-half of the cost of wall insulation in this way. And don't forget that the insulated house will be cooler in summer, and that it will both sell easier and bring a better price because of this feature.

**HEAT LOSS THROUGH GLASS.** Here is a stumbling block to economy. We all know the value of windows, and we must pay the penalty. The loss through a plate glass window, through one of single-strength glass or one of double-weight glass does not materially differ—it is just a question of having so many square feet of glass on each side of the house. It would be possible to reduce the loss per square foot by using two panes, separated by a small fraction of an inch, but the practical difficulties—keeping moisture and dirt from the inner surfaces are almost in-

surmountable. So you'll have to enjoy the benefits of the windows and pay the piper.

**HEAT LOSS DUE TO INFILTRATION.** Here is the greatest individual loss of one that offers many opportunities for reduction. If your home stood in absolutely still air all winter, there would be no infiltration, but you know that such a condition is impossible. When a wind blows against the north wall of a house there is a pressure against that side that forces the cold outside air through every crack and cranny in almost unbelievable volume. Recently, I computed the infiltration due to a gang of four double-hung wood frame windows of conventional size, set in a wall of a living room, 14 ft. by 24 ft., and 9 ft. high. With a 10-mile wind blowing directly on the wall, the incoming air would entirely fill the room in 17 minutes. With a 20-mile wind the air was changed every 13 minutes, and with a 30-mile wind, which is not unusual in the average winter, the room would be filled with air, perhaps at zero temperature, every eight minutes. Can you appreciate the load that this one window can put on a heating plant? (Fig. 3.)

There are two ways that air infiltrates due to windows; around the window frame, and through the cracks between the sash and frame, and between two parts of the sash. Leakage around wooden frames is hard to stop. It can be materially reduced by careful construction. The new metal frames set in stone, brick, tile, or other similar wall, easily can be calked with plastic material made for the purpose, and the frame leakage entirely stopped. Metal

(Continued on page 32)



# BUILD IN WINTER AND SAVE SOMETHING

By H. VANDERVOORT WALSH  
Professor in the School of Architecture, Columbia University

WHEN many people all rush to a merchant for a certain article, and the supply is limited, nine times out of ten the price goes up. When more people want homes built than can be erected by the community's contractors, the cost of construction increases. When contractors have to employ more carpenters and masons than are in the locality, they have to pay higher wages in order to bring help in from the outside.

On the other hand, when a merchant has more goods to sell than can be bought by his customers, he will lower the price to attract more purchasers than he would ordinarily for such goods. Also when builders have not much work on hand, they will build houses at a lower charge in order to keep their organization together until such time as they have more work on hand. If contractors are hard pressed for work, they will often take on construction at a very low margin of profit just for the sake of paying their overhead. Likewise, when a laborer is out of a job, and cannot find one easily, he will be more ready to accept lower wages, than when he knows that his services are wanted by a half a dozen builders.

This is just common business sense, and practically everyone knows this to be one of the ways that prices are



*"... start excavations and hurry the work along."*

regulated. Yet few people apply this knowledge when they come to build a home for themselves. Instead of starting their houses, in the slack season, they wait until everyone wants to build.



*"... when a laborer is out of a job, he will be more ready to accept lower wages ..."*

Now it has been the habit in the past to stop building operations in the winter, but to rush them in the summer. Consequently the cost of construction is lower in the winter than in the summer. We used to think that the adverse conditions of the climate in winter were the cause of this slackening of building from November to June, but we now know that it is more of a habit than anything else. Analysis was made of weather conditions in nine cities for ten years and it was found that climatic conditions had very little to do with the seasonal slowing down of work in construction in the winter months. In both Northern and Southern cities contractors, building-supply dealers, material manufacturers, architects, and building-trade workers, in the average city, are employed less than three-fourths of the time at their trade. Until very recently building mechanics usually sought other work outside of their line in the cold season.

Obviously, when in the spring everyone begins to pull out his plans for construction, the cost of things will go up. Yet there is no reason why prudent people should not build this winter and take advantage of the lower cost of labor and the willingness of the contractor to lower his margin of profit, so that he can keep his organization together and cover his overhead. Begin work now and have the house completed by early spring. Or else, let the contractor carry on the work slowly until the rush period in the spring.

The amount that you will save on your

house is a local problem. Around New York City, where I am familiar with conditions, building material prices do not go down much in the winter months, although a possible saving up to 5% is some times made. The cost of labor, however, is from 10% to 20% cheaper, than during the summer months. As for the loss of time, due to bad weather conditions, builders of small homes estimate on from ten to twenty days. The chief factor in winter construction here is to hurry the work so that the building can be completely enclosed before seriously cold weather sets in.

An ideal winter schedule for building in this locality is to start excavations about November 25 and begin work on



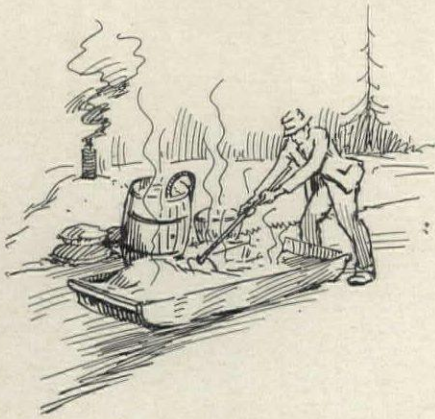
*"You cannot lay masonry walls in freezing weather unless the units and mortar are heated and kept from freezing."*

the foundations about December 1. Then by the tenth of the month the frame can be started and the house will be enclosed by Christmas. From this time until January 10 the plumbing, heating, and rough electric work can be installed. Then with temporary heat, the lathing and plaster can be applied, probably taking until the first of February. At that time the boiler can be hooked up and in about five days, work can be started on installing the trim around doors, windows, bases, and the like. This and the painting will take until about the first of March. By the fifteenth of this month the house can be completed.



Such a building schedule is ideal for the winter climate around New York. It is not of course to be recommended for other sections of the country, unless similar conditions prevail, but I have outlined it as an illustration of a typical program for winter construction.

You see, it takes into account the possible delay which might develop as the result of freezing weather, for there



*This worthy mechanic is not indulging in cookery on a Gargantuan scale. He is merely warming his ingredients, for the weather is cold.*

are certain things that should be done before the thermometer drops below 32 degrees. You cannot pour concrete easily in freezing weather, nor lay brick, terra cotta tile, concrete blocks, cellar floors or cement porches. Cold destroys the chemical activity of the cement which must go on to make it set hard. It is therefore wise to get the foundations in before the very cold months. Yet, it is thought possible to use concrete in freezing weather, if the ingredients are heated before being used, and the finished work is covered with straw, hay or tarpaulin, to protect it until it is set.

The plastering need not be delayed, for the building will be enclosed and heated while this is going on. Inside tile setting can also be done at the same time. By March the warmer weather usually sets in, and the stucco, if there is to be any, can be done then.

Outside of the restrictions mentioned

above, the rest of the construction can be carried on during freezing weather. Excavations can be made, concrete forms set up, wall studs, floors joists, roof rafters, sheathing, and roofing can be put up while the snow flies, with a few days out when the fingers of the workers get too chilled or the wintry winds blow too hard to stand on the scaffold. Once the house is enclosed, the interior finish can be applied and the mechanical equipment installed.

Now when we speak of enclosing the house, we do not mean shutting all of the glazed windows. This would not allow the moisture from the drying plaster to escape. What we do mean is getting the roof on, sheathing the frame on the outside, putting in the window frames, and tacking across them muslin or else setting the storm sash. This allows the excess moisture to pass out, and at the same time allows enough heat to remain in the building to keep things from freezing up. By the time the plaster is dry, the interior woodwork can be applied.

Such millwork should come to the job in a protected condition, and it should not be permitted to get damp or wet. It should be nailed in position quickly, before it has had a chance to absorb moisture and swell. Of course



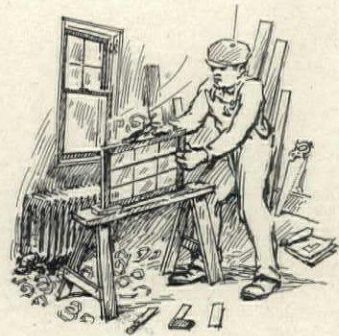
*"... the frame can be started and the house completely enclosed before seriously cold weather sets in."*



*"Then the plumbing, heating, and rough electric work installed."*



*"The plastering need not be delayed, for the building will be heated."*



*"After the plastering comes the millwork, windows, and doors."*

it will take in a little moisture afterwards, but as it has been fitted together dry any expanding movement caused by absorption will close the joints rather than open them. This is desirable, but the opposite would be the effect if the trim were nailed into place while it was swollen with moisture, for when it did dry out, the pieces would get smaller and the joints would open up.

Thus you see without any serious hazards you can start the construction of your house this winter, and save the money which you will have to spend on it, if you wait until everybody else wants to build in the spring. Of course the day will come, when many other people will be as wise as you are, and then the savings will not be so great, but the cost of construction will be more stable. Then it will be cheaper the whole year round.





Photographs by Mattie Edwards Hewitt

## TO HOUSE THE LIBRARY WORTHILY

By  
KATHARINE WAY

*Built-in bookcases have the beauty of an integral architectural feature, and if carefully planned bring out the charm that only books can add to home surroundings.*

*Shelves on either side of the fireplace enhance the architectural qualities of the chimney piece, and the rich colors of the books extend the hospitality of the hearth.*





**B**OOKS add unique charm to a home. They create an atmosphere of graciousness and of pleasant living which nothing else does. Their presence gives an air of dignity and comfort to the home surroundings and their colors and textures add richness.

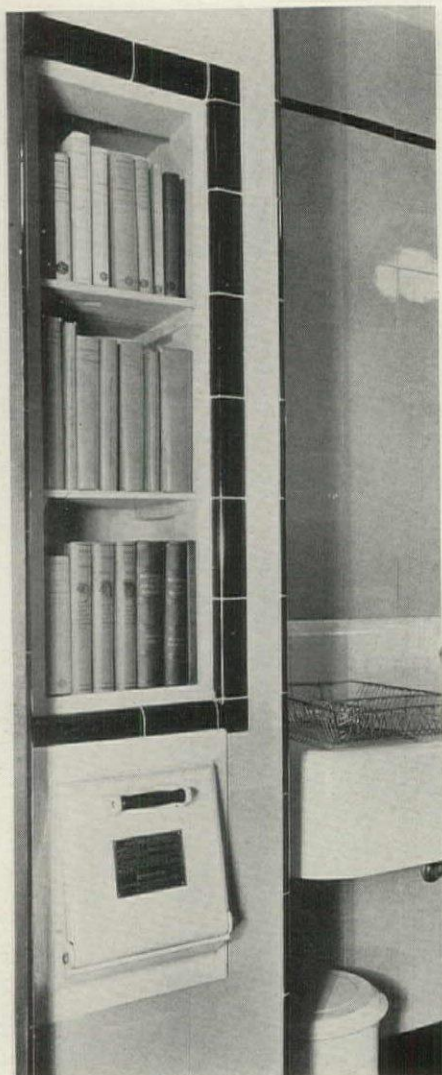
A home library should be regarded not only as a book collection to be placed where most convenient and accessible, but also as a decorative asset similar to a colorful tapestry. Well designed bookcases will bring out the color and lines of books and make the most of their attractiveness.

*Bookcases can be advantageously placed on either side of a door. If the home library is large, they may cover the entire wall, extending above doors and under windows.*

*Each member of the family usually likes to have a shelf in his or her room for particular favorites in addition to the central book collection in the living room.*







By Courtesy Home Making Center

*Even in the kitchen a bookshelf is a great convenience. This one is of tile and built into the wall.*



Photograph by Mattie Edwards Hewitt

*One of the decorative advantages of books is that they fit into narrow places. Here a bookcase has been placed in an otherwise useless space. Built the same height as the doorway, it ties in with the architecture of the room.*

The modern family, however, usually have more books than they quite know what to do with. Interests have grown so broad that a great variety of books are in demand for information as well as for recreation. Business books, scientific books, books on religion, philosophy, travel, and social questions have become as necessary for the family library as fiction, poetry and biography. Cook books, books on home economics and child care are household necessities.

Bookshelves must be planned that provide adequate space for all these books while making the most of their decorative value. Fortunately built-in bookshelves and bookshelves built close against the walls as part of the woodwork take up no valuable space. A number can be used even in a very small house. These bookshelves have the beauty of an integral architectural feature and, if carefully planned, will bring out the charm that only books can add to home surroundings.

The living room is the logical place

for the greater part of the family book collection, unless a separate room for the library is planned. If there is a fireplace, the projection of the chimney leaves shallow recesses on either side where bookcases seem particularly appropriate. Shelves here can enhance the architectural qualities of the chimney piece and the rich colors of the books will help to extend the hospitality of the hearth.

Bookcases can also be advantageously placed on either side of a door or window or used to balance a door or window on the same wall. If the home library is large, they can be made to cover the entire end of one wall. Bookshelves can also be attractively placed under a high window or in a narrow wall space. One of the greatest decorative advantages of books is that they fit into narrow places. A most attractive little bookshelf can often be placed between two windows or between a window and a door where no other decoration is possible.

The height of the shelves will be de-

termined by the mantel or moulding. If the mantel is of medium height, it is best to make the shelves even with it or else to build them all the way to the moulding or ceiling. An attractive effect can often be secured by rounding the top shelf of a high set of shelves. This is especially good when the shelves are on either side of a flat topped door or window. If the shelves start from the floor, the first shelf should be four or six inches up to protect the books from dust. Shelves should be about nine inches apart for ordinary books and more for dictionaries, atlases, and the larger special editions. Adjustable shelves are a great advantage and can easily be arranged for by making holes at one inch intervals in the side supports and using metal pegs to hold the shelves. The upright side supports should be placed at intervals of three feet to prevent the shelves from sagging.

Built-in bookcases are usually the same color and material as the rest of

*(Continued on page 36)*



# FIRST STATE YOUR PROBLEM

By HENRY E. WICHERS

Rural Architect,  
Kansas State Agricultural College

*"First catch  
your rabbit"—  
an old recipe  
for rabbit pie  
which seems to  
fit the point in  
question.*

THE mathematician tells us that once our problem is clearly and concisely stated it is half solved. He also tells us that until we have classified all necessary data, we can never arrive at a proper solution. In relation to mathematical problems, it does not seem difficult to understand what he means, but it is not quite so easy to see that the same law must be applied to our home building problems.

In designing a small home at least half of the work is made up of fact gathering that is absolutely necessary before the problem can even be stated, let alone solved. But what do we mean? It is easy enough to say that we must clearly state our problem. It is not so easy to actually state it. Human beings are peculiar. They are not at all sure that they will want the things tomorrow that they desire today, and, of course, such a tendency makes them hesitant. It should make them willing to study very carefully all elements that are a part of their home building venture.

Judging from experience with home builders during planning time, it would seem that most of us are too hasty in the matter of stating our problem. Planning time is the time when everything must be carefully considered, and we cannot take into consideration all of the elements of home building in a week if we are to do it thoroughly. With the help of experienced men we may be able to state it in a month, but if we are not able to employ this experienced help, it would seem better to take considerably more time so that one's desires may be studied and crystallized. Why should we be in such a hurry to state the problem when stating it seems to be the most difficult part, and even the most important part of the job. Neither is it something that can be entirely shifted to the shoulders of other men. A neighbor or a friend cannot state our desires and our likes. That must be done by ourselves. However, once we present our likes and dislikes in definite terms, it is easy enough to employ an experienced man to solve the problem. We have mathematicians and we have architects, but neither of these trained men can work without the necessary facts to work with.

Probably the best source of information that will help the prospective home builder in making up his mind concerning the thousand and one elements that enter into a home are the modern home building magazines. If one will take plenty of time evenings and odd hours going through

these magazines, looking for suggestions that can be used in one's own home, one will acquire a very large number of suggestions and ideas that will be helpful. One will be reminded of things by this method that will otherwise be totally forgotten. Such a process is tedious, even laborious, but a really successful home should be worth a large amount of our time. For instance, if we can see photographs or read descriptions of several different types of closets, we will be able to picture rather definitely the type of closet that will fit best in our particular case, but if we look at no closets and merely take the suggestion of an old house in which we have lived, we may be passing up many modern, convenient, inexpensive ideas in favor of an ancient, poor one. Developments come quickly in this day and age. Buildings become antiquated very speedily, and it is the part of wisdom to spend considerable time in becoming acquainted with modern equipment and ideas so that our new houses will not be ancient before they are built.

Progress has been exceedingly swift in the kitchen, and today equipment and conveniences are common that were hardly thought of ten years ago. How is one to select proper equipment? How can one tell when they can be included in a house of a given cost? The best way to proceed is something like this:

First, state fundamentals. That is, list on a piece of paper those main things that will be absolutely necessary in your new home—bedrooms, living room, dining room, kitchen, laundry, etc. Set these down and estimate as nearly as possible the size. Now then, with these definite requirements listed, take each room and go through it from floor to ceiling and wall to wall, stating everything that is essential in that room. Do not think of it in terms of a particular place or particular location. Merely state that you desire this room to have certain exposures; you desire this room to have certain elements of furniture; and you desire it should have particular equipment. In other words, state the problem. State definitely just what you wish. You will be surprised at the multitude of things that must be brought into that house if it is to successfully serve your family. Even with these definite statements as to needs, you will be surprised at the latitude possible within the amounts that can be spent for the various elements as you have listed them.

(Continued on page 36)





Photographs by Mattie Edwards Hewitt

*Who would question the pleasure of meals in a kitchen as charming as this? With a little time and forethought, you can make your own equally attractive.*

the way. The outfit is more than a little decorative, for the whole thing may be painted as you please, the interior of some contrasting color the better to display the china, glassware, or containers on its several shelves.

And so again we say, there isn't an excuse in the world for your not enjoying the benefits of a breakfast nook. It is one of the finest means of installing some of the much vaunted office and factory efficiency into the home. It is not merely a luxury, it is a necessity such as the kitchen cabinet has come to be, and no less a step-saver. If you still doubt, remember the story of the woman who discovered, through the use of a pedometer, that she walked three—or was it five—miles every day merely preparing and clearing away meals. No wonder big dining rooms and kitchens are going out of favor.

It is really astonishing how little space a breakfast nook requires. One of the pullman type may be accommodated in a space 6 feet wide and approximately 3½ feet deep. One small alcove adjoining a certain kitchen is only 5½ feet deep by 6½ feet wide, yet it accommodates a table and four chairs

*The alcove in the kitchen is a particularly convenient arrangement, whether with or without built-in furniture.*

## WHAT IS HOME WITHOUT A BREAKFAST NOOK

By MARION PETRI

YOU, perhaps, may think otherwise, but we are prepared to say flatly—and come close to proving our point—that there isn't an excuse in the world for your not having a breakfast nook in your house. We are not at all arbitrary about the kind, for there are many types available. Indeed it would be queer if there were not, with architects, builders, manufacturers, and household scientists, not to speak of the housewife herself, at work on the problem.

Too little room? That reason is not sufficient, for if there isn't area enough for a separate alcove, there is the pullman type built into the kitchen to be considered. If space is lacking for even this, a small table and chairs drawn up

before a window or in one corner of the kitchen serves very well. (This in spite of the jibes of many writers on the subject; they are not doing the housework.) If you still contend that there is no space in your particular house for any of these, there is one last possibility that is practically certain to serve the purpose. This is a kind of hanging cupboard which occupies only wall space—and comparatively little of that. The front of this cupboard drops down to form a table, the inner edge being hinged at the cupboard, the outer edge supported on a single leg which is also hinged and which, when the table is closed to form the door of the cupboard, hangs from the top of it entirely out of







*In this convenient arrangement for the very small kitchen, the table is hinged at the inner end, and closes up out of the way to form the front of the cupboard.*

for the children's toys. Benches even without such storage space may be arranged with hinged tops so that they may be folded back when cleaning.

The breakfast nook also serves adequately as a pantry when you entertain, particularly if it is located between kitchen and dining room. Dishes may be stacked here or plates filled before carrying to the table, thus taking some of the burden off the kitchen. Oftentimes there are cupboards and drawers in the dining alcove. Here the best china, the little used silver, and the table linen may be stored.

But the breakfast nook serves many purposes for the housewife personally. Particularly does it serve as that thing which household scientists call the "rest center." Here you may sit while foods cook or dainties bake over which you must keep watch. Many minutes can be used in this way when it would be impossible to go farther afield for rest. The nook may serve also as your office, with a shelf provided here for your writing materials, account books, recipes and the like. It is a convenient place to make up the grocery list and the menus. As such, the breakfast nook would be a convenient place for a telephone, since today no "office" is complete without it—and from here you would be able to do all of the telephoning con-

*(Continued on page 31)*

very comfortably. Another type which serves very well and yet which takes up little space is composed of a single built-in seat with a table pulled up before it and chairs on the outside. In a corner there may be built-in seats on two sides. This is particularly adaptable to an old house, for it may be provided at little expense, and in the larger kitchens of some years ago there is always some wall space which may be utilized for the bench. Sometimes also in these older houses there is a pantry which might serve far more usefully as a breakfast nook, and you will find that the change can be made at comparatively small cost.

Once you have it, you will soon find that the breakfast nook is one of the most useful areas in the house, rendering services wholly outside its ostensible purpose of a place to serve meals. It is an ideal place for small children to play on rainy days or when you wish to keep them in sight. Here they may cut and paste to their hearts' content, and many are the toys which will race across the table. To prevent the top from becoming marred a piece of oilcloth, kept solely for this purpose, may be spread over it. Incidentally the benches, if they have hinged tops and storage space beneath, make a splendid place

*The built-in breakfast nook is perhaps the most popular. Tables and benches may be had in a wide variety of styles. The windows should ordinarily be lower than these so that those seated may look out.*



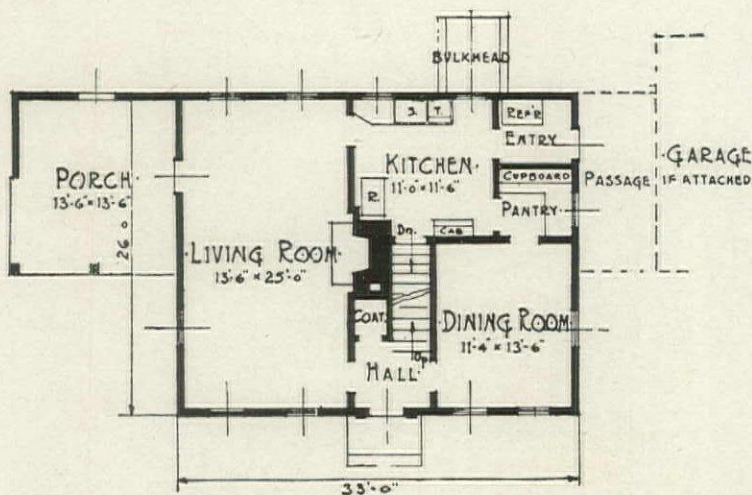




BUILT FROM DESIGN 5-G-1

## AS CAPE COD SEES THE COLONIAL

*A House That Will Be At Home in Practically Any Section  
of the Country and in Any District of Small Homes*



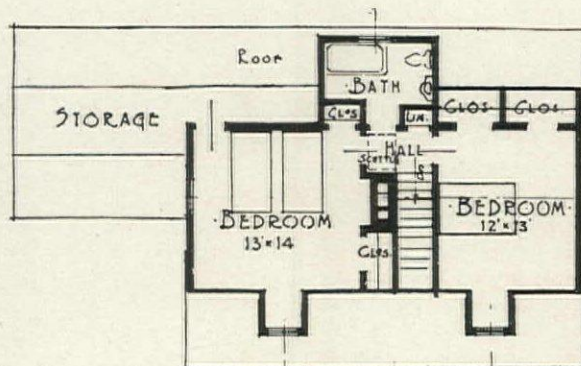
ARCHITECTURE of this type does not go out of style, but meets always with admiration. The house above has been built reversed from the plans, showing the partially enclosed porch on the opposite side. The semi-attached garage shown in the plans has been omitted, and a detached garage substituted.

The house may be finished either with clapboards or shingles, preferably painted white. Weathered gray shingles with white trim would be another fine

choice. The roof, to be in keeping with the architecture, should be of wood shingles. The chimney might be painted white with a black band at the top.

The beauties of this house are not limited to the exterior by any means. Inside we have a plan with most delightful rooms. The arrangement is convenient; there is no waste space. The living room is unusually large, and recessing the fireplace gives it even more area. A French door leads to the porch.

Upstairs the bedroom ceilings are cut off slightly at front and rear, so that the rooms have a feeling of comfort and informality more difficult to achieve in bedrooms with level ceilings.







*The dining room has been finished in a manner befitting the style of the house; with quaint old-fashioned wall paper and low wainscoting. The room is reversed from the plan, as the door shown*

*opens into the kitchen. The corner cupboard was added by the owner. The illustration below proves beyond a doubt the generous size of the living room. As the fireplace is recessed no floor space is wasted.*







Photograph by Mattie Edwards Hewitt

*In cottages and small homes paint for furniture, walls, or woodwork, all or in part, sometimes contributes to a most charming originality and simplicity of effect.*

## THE USE OF PAINT IN OLDEN TIMES

*When it Meant Thrift, Cleanliness, and Color*

By GLADYS LILLY

A well-known buyer for one of the world's largest department stores remarked the other day that during the past ten years American taste had improved so much that it was now very good fun to be a buyer! This man had formerly considered our national taste so lamentable that he deliberately bought things that broke every principle of color harmony, design and proportion, and because such baroque articles appealed to Americans they were sold quickly in profitable quantities! But simplicity and beauty of color have displaced elaborate carving and massive construction and we now number hundreds of attractive homes to dozens of a decade ago.

Nothing more clearly demonstrates the development of our national taste than the popularity which the Early American style of architecture and furnishings has held during the past ten years. There certainly have been other periods in history more glamorous, and other designers and craftsmen more

skilled, than those of the early colonization period in America; but while ephemeral fashions have caught the fancy of a fickle public and been abandoned, the early American style is more and more becoming the symbol of our national taste. It is not difficult to understand. Not only are the simple chaste lines of New England farm homes and furniture practical and lovely, but they are especially appropriate to an informal and comfortable hospitality. Americans are also gratifying a sentimental attachment for the chattels of their forebears when they carefully assemble them in collections; so there are good reproductions, poor imitations, and genuine originals of just about everything that our ancestors used during their early pioneer days in America.

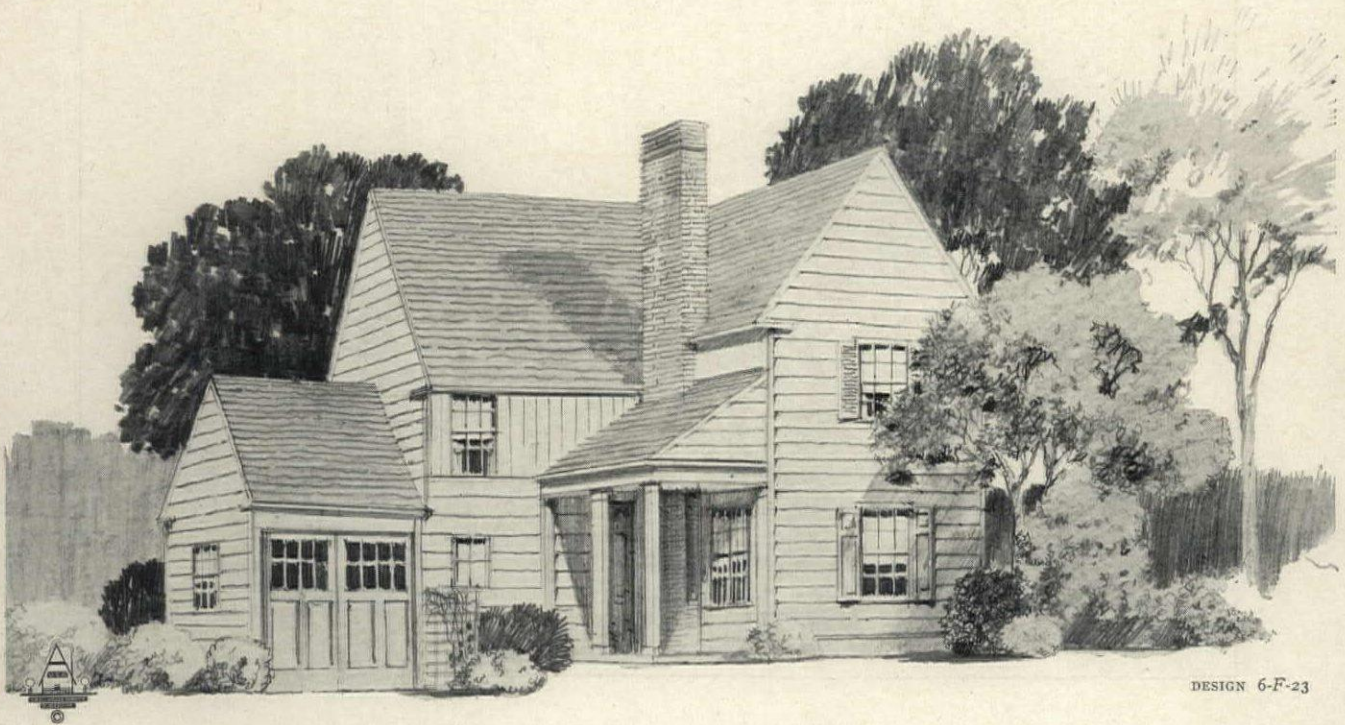
With the prevalence of this style of architecture has naturally come a great increase in the sale of building materials suitable for the Colonial home. Brick and wood were used almost ex-

clusively by those pioneer builders, and in almost every instance even those houses which were of brick were painted. Paint, in fact, was as important to them as the construction materials themselves, and exteriors and interior woodwork were not the only uses to which this practical product was put by the thrifty New England gentry. They found furniture most appropriate for painting. The result of somebody's efforts with a little black paint and a Windsor chair brought hundreds of dollars last year at a sale of Early American Art Galleries.

The small house is especially well suited to Colonial design—that is the Colonial style as developed in New England. In the South, where the colonists were wealthy, we find adaptations of Georgian architecture which were beautiful as old plantation houses but which were prohibitively luxurious to the average settler. It was the small English cottage with a strong Dutch

*(Continued on page 39)*



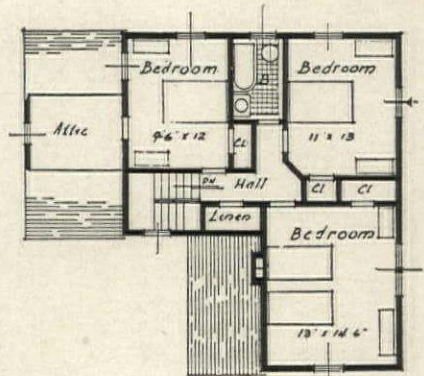
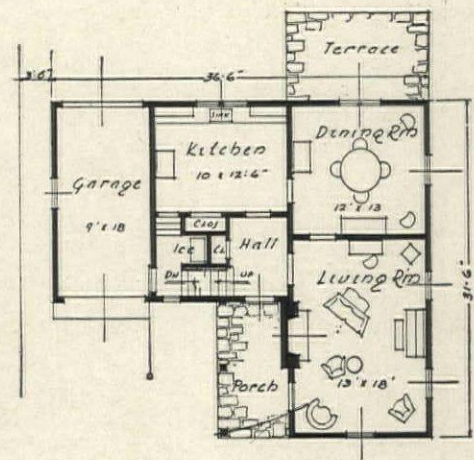


DESIGN 6-F-23

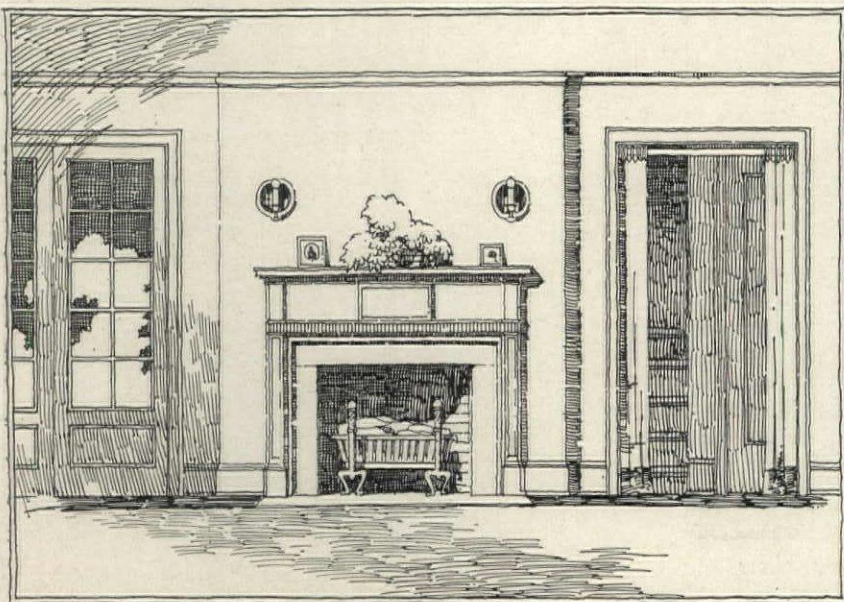
## A REVIVAL OF OLDER FORMS

*Early American Homes Inspired This Design,  
Made Modern by an Attached Garage*

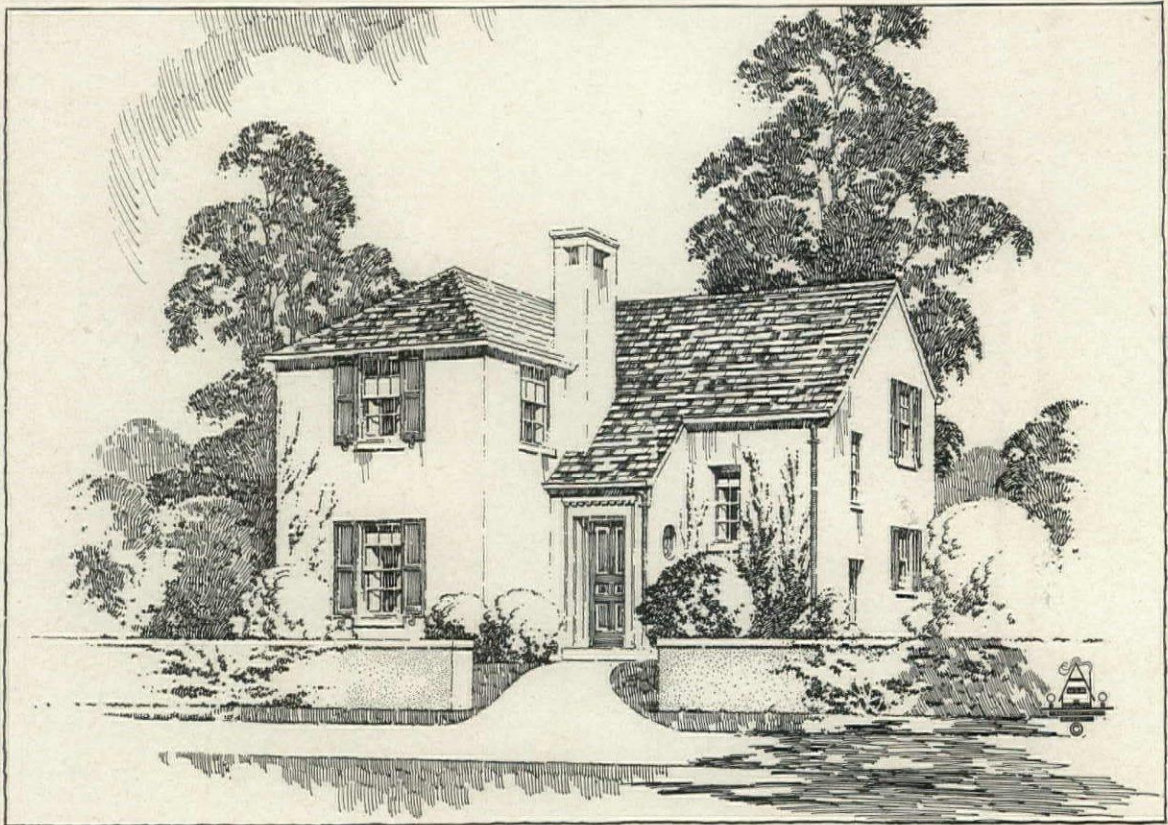
EXPERT care has been exercised in the management of this house, its plan, its mass and form, and the materials used. Wall spaces for furniture and lighting suggest the same skill. The sketch below shows the fireplace in the living room. At the left are French doors opening onto the porch. At the right is the cased opening to the stair hall and front door. Wood siding and flush boarding are combined on the exterior.



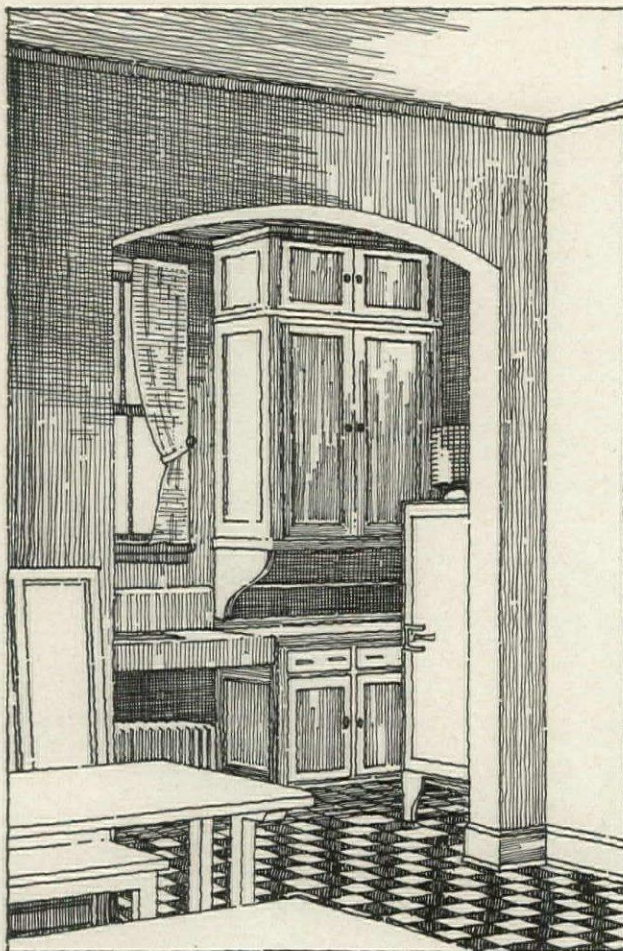
*If desired, dining and living rooms may be separated only by a plastered arch, making one really large room.*







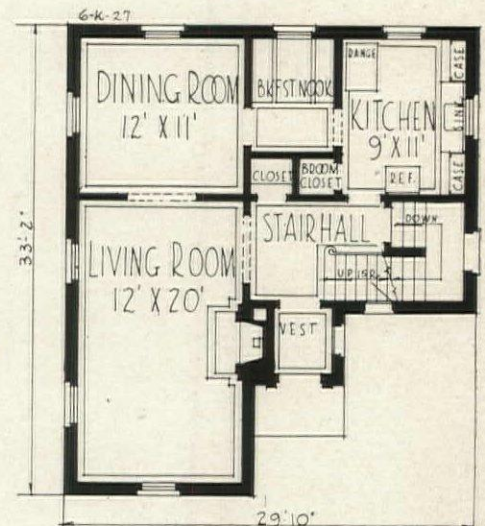
DESIGN 6-K-27



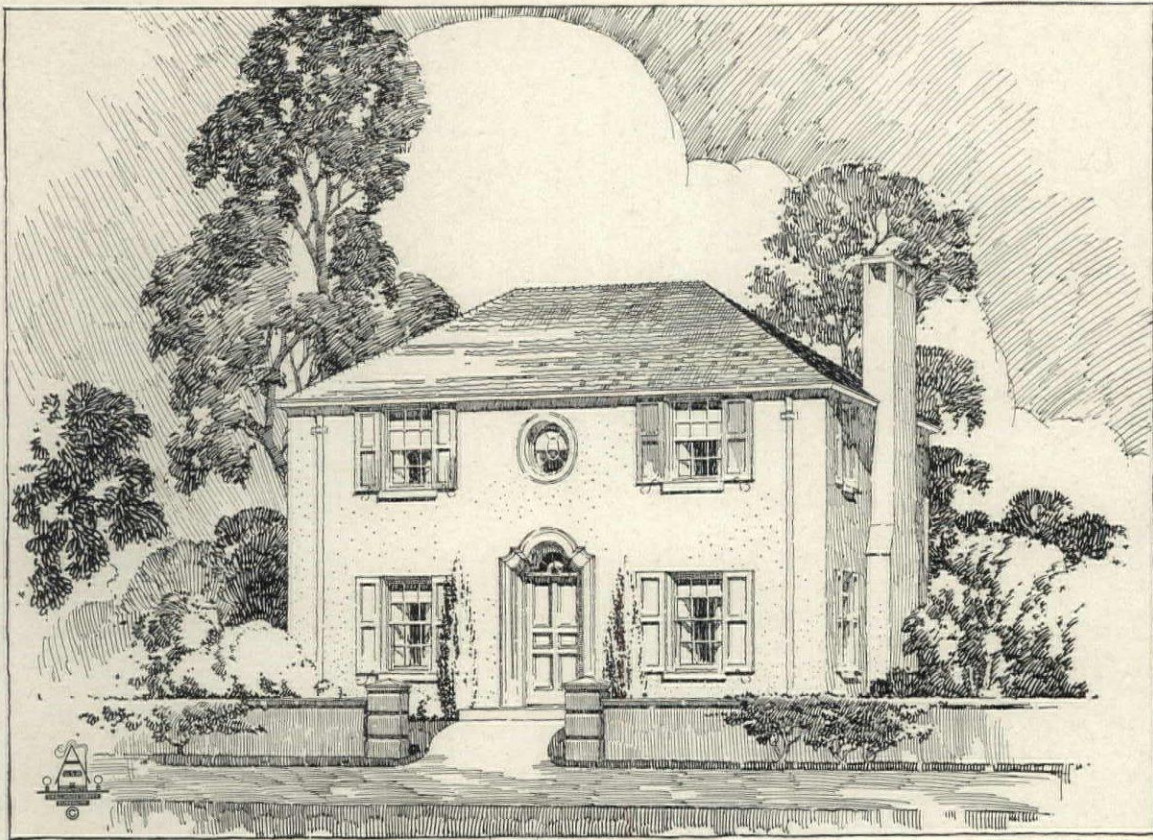
The sketch is of a view from the dining alcove through the plastered arch into the kitchen.

## AN ELL SHAPED PLAN

The walls are of concrete masonry, furred on the inside for greater warmth, and stuccoed on the outside for better appearance. The roof is of cement asbestos shingles, and the floor of the first story is a concrete slab.



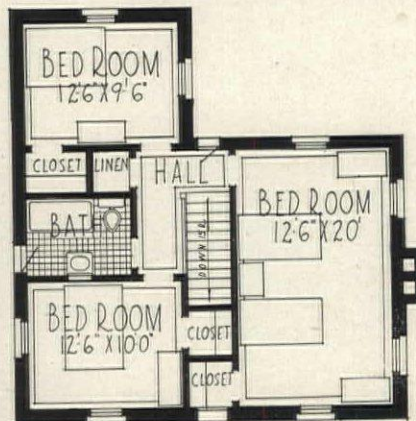
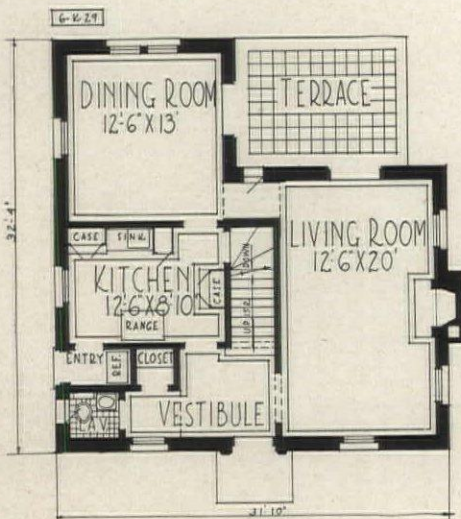
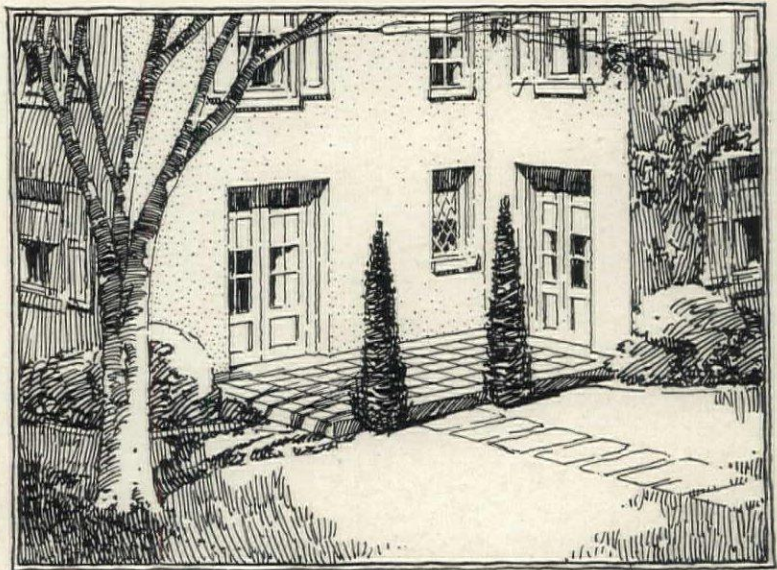




DESIGN 6-K-29

## MODERN IN DESIGN AND MATERIALS

MODERN architecture, as exemplified by design 6-K-29 on this page and 6-K-27 on the opposite page, makes use of materials typical of our times. One of these is cement—a plastic material when it is newly mixed, which makes possible not only the forming of walls and floors and other structural units, but the modeling of pleasant shapes and decorations carrying texture and color.



AGREEABLE in design, this house has a common sense arrangement of rooms, both pleasant and efficient. There is a commodious vestibule, a lavatory, and a coat closet near the front door, an inviting living room with a valuted passageway leading to the dining room. Both dining room and living room open on the terrace shown in the sketch above.





HOUSE BUILT FROM DESIGN 6-A-77

## A TWO-STORY HOUSE ALMOST SQUARE

*Not Commonplace, However, but Planned for  
Good Space at Reasonable Cost*

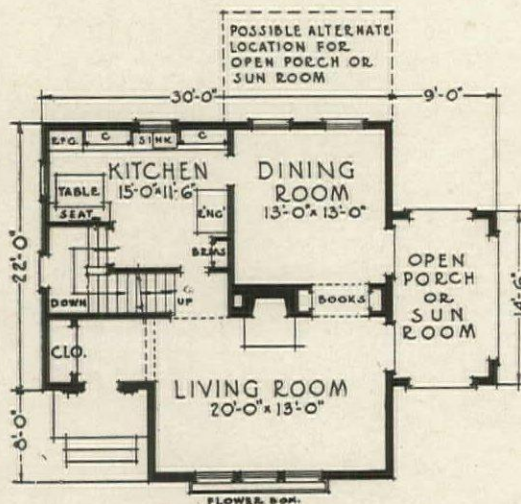
HERE is a house that is honest and straightforward both in design and plan, one that can be built without waste and that provides for useful floor areas and sound construction at reasonable cost. In addition it presents an architectural appearance that will remain fine long after a fussy and more elaborate house would have gone out of style. Neither is there anything about it to cause it to depreciate in value.

As the plans show, the rooms are all of good size, brilliantly lighted by windows yet with adequate wall space. As they turn on each other logically the arrangement is convenient and such that construction is simplified. This is one of the principal ways to keep down costs.

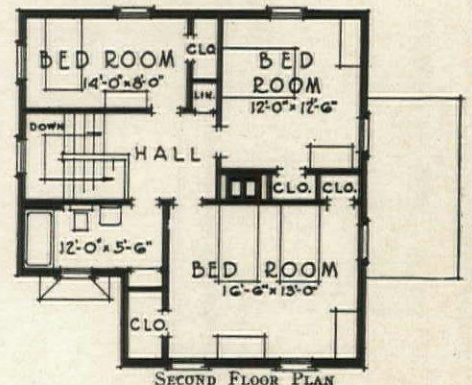
The list of features that makes this plan desirable includes a full size coat closet; an inside fireplace; a beautiful

plastered arch between dining room and living room, with recesses for books; French doors from both living room and dining room to the open porch. The porch itself may be enclosed to make a sun room if desired. A closet bed may be provided in one of the rear bedrooms, and the bedroom used as a study.

The house is built of wood frame, exterior finish stucco, roof of tile. Drawings may also be secured for this design with exactly the same floor plans but with a finish of siding and slightly different details, which give an English effect to the exterior.



The kitchen affords cross ventilation, and is completely equipped with an entrance to the grade and to the basement, a closet for brooms, and refrigerator, china closet, sink and cupboard arranged in one line against an outer wall. There is also space for a breakfast nook.



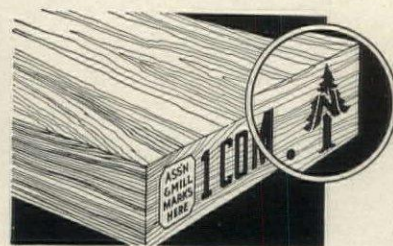


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\*North Carolina Pine Association, Norfolk, Va.—North Carolina Pine

\*Northern Hemlock & Hardwood Manufacturers Association, Oshkosh, Wis.—Hemlock, Maple, Birch and Northern Hardwoods

\*Northern Pine Manufacturers Association, Minneapolis, Minn.—White Pine, Norway Pine

\*Southern Cypress Manufacturers Association, Jacksonville, Fla.—Cypress and Tupelo

\*Southern Pine Association, New Orleans, La.—Long Leaf and Short Leaf Southern Yellow Pine

\*West Coast Lumbermen's Association, Seattle, Wash.—Douglas Fir, Sitka Spruce, West Coast Hemlock, Western Red Cedar

\*Western Pine Manufacturers Association, Portland, Ore.—Pondosa Pine, Idaho White Pine, Larch  
National American Wholesale Lumber Association, New York, N. Y.

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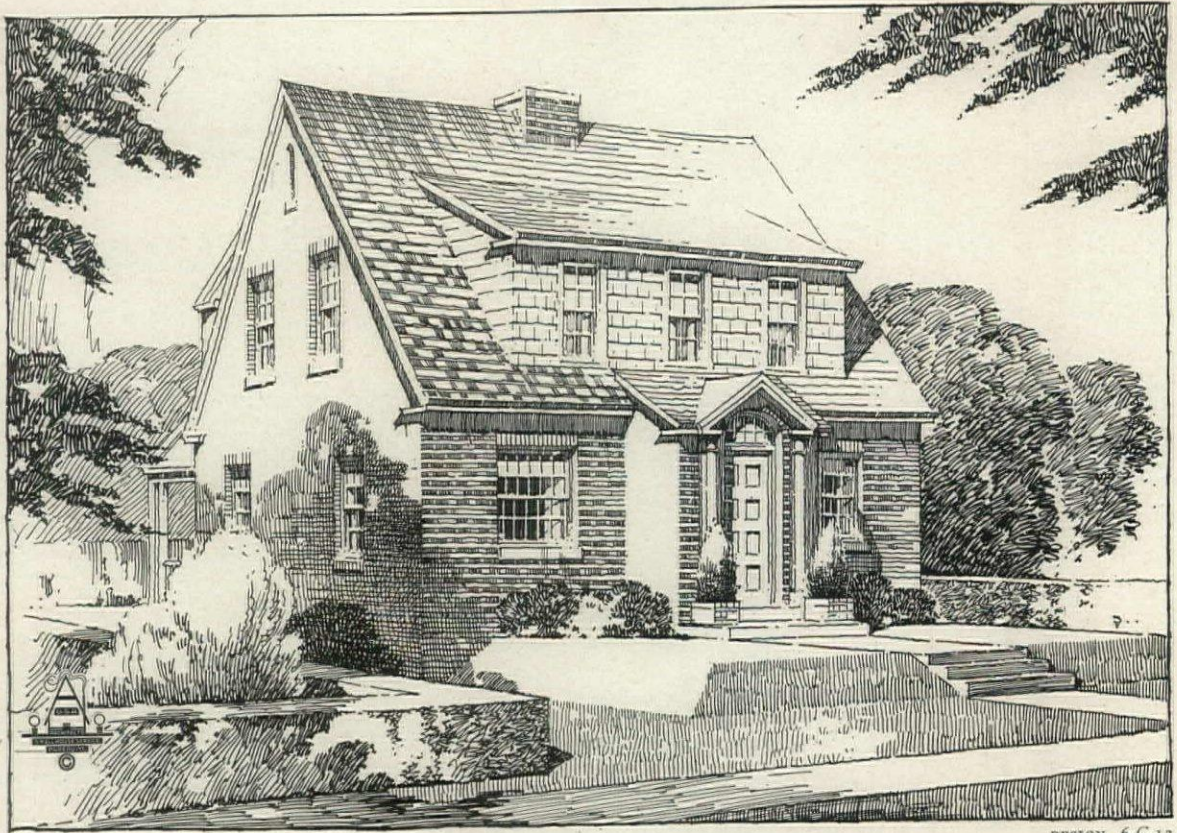
American Wood Preservers' Association, Chicago, Ill.  
\*Oak Flooring Manufacturers Association of the United States, Chicago, Ill.

Red Cedar Shingle Bureau, Seattle, Wash.

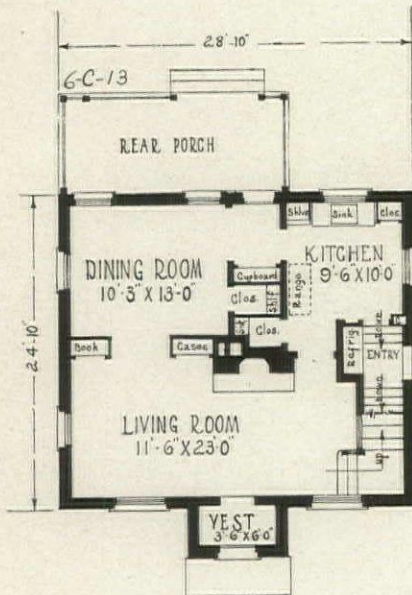
\*Grade-and trade-mark lumber available in these species

†Trade-mark lumber available in these species

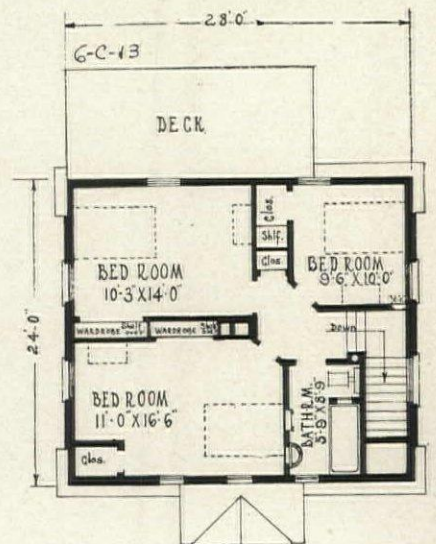




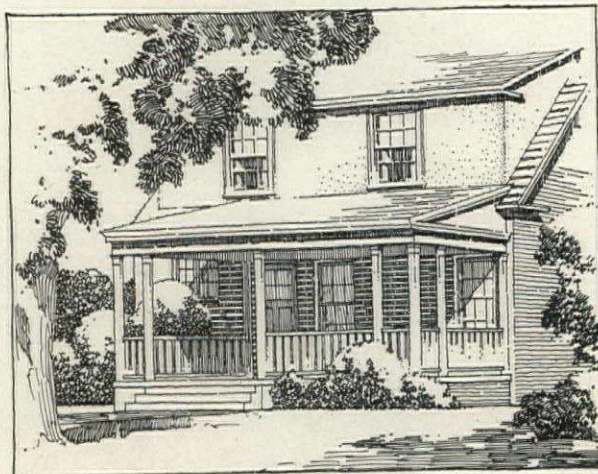
DESIGN 6-C-13



## MODIFIED COLONIAL IN BRICK



HERE vestibule and stairway open directly into the living room, making first floor hall space unnecessary. The rooms, particularly the living room, are of generous size therefore, although the house itself is not large. The dining room is separated from the living room by bookcases.



THE second floor plan is equally efficient. Of the three bedrooms, two are exceptionally large. The house is of the story and a half type, but only a small amount of ceiling is cut off by the slope of the roof. Brick veneer on wood frame, with a roof of shingles or slate is the construction.





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## WHAT IS HOME WITHOUT A BREAKFAST NOOK

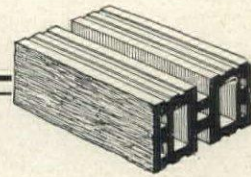
(Continued from page 21)

nected with your household duties.

Consider in addition how extremely decorative the breakfast nook, whatever its type, may be. By means of paint, enamel or lacquer it may be made as gay as you desire. On the other hand one of the loveliest we have ever seen had woodwork, including table and benches, stained a rich walnut color, varnished, and waxed to a dull, soft finish like the woodwork in the small, efficient kitchen adjoining. Linoleum in brown, yellow and orange covered the floors of both, and at the windows hung straight voile curtains, checkered in yellow and orange. Around the wall, high above the heads of people seated, was a narrow shelf with a scalloped wooden valance board of the same rich brown on which were several utensils in shining copper—including a fat little tea kettle—and a row of richly colored plates in heavy peasant ware.

Shelves are one of the most attractive means of ornamenting the breakfast nook, but they must in no way interfere with those who are seated about the table. Sometimes there is room enough at either side of the window for a single, small shelf, perhaps one of the triangular variety which fits into the corner. On this a single article of bright china or metal may be placed, or perhaps a pot of ivy at either side. If the gas stove is close by, the ivy may have to be replaced at times, but the effect is worth this trouble.

(Continued on page 34)



## Face Brick Appearance at the Cost of Frame



WALLS of Denison Matt-Faced Tile have the charm of colorful face brick construction with tints of red and green appearing against a background of rich browns ranging from delicate tans to chocolates. As these colors are burned into the tile and not merely applied with a brush, they retain their beauty and renewal or refreshing is never necessary.

## Denison Matt-Faced Tile

The first cost of walls of this tile does not exceed that of high quality frame construction. As there is no maintenance cost the original expense is far less when computed in terms of years of satisfactory service. In addition, the pride of ownership cannot be figured in mere dollars and cents.

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## Mason City Brick & Tile Co.

314 Denison Building  
Mason City, Iowa



## HEATING THE SMALL HOME

(Continued from page 13)

window sash, when well constructed, are much tighter than ordinary wood sash, the latter permitting the passage of about three times as much air at 20-mile wind velocities.

Almost everyone is familiar with the common methods of reducing crack losses, weatherstripping and storm windows. Few, however, are aware of the wide range in effectiveness of both of these applications. Recently I saw

a house with a living room having, on the west side, two French doors opening onto a porch. The home was a better type of speculative house. With a good strong winter wind, a candle was repeatedly blown out three feet from the door crack. The owner was forced to have weatherstripping put on, but he chose to give the job to the lowest bidder, who installed cheap metal strips. As a result, while the infiltration was

materially reduced, a strong wind would blow out a candle at a distance of six inches from the door crack. First-class window strips would have made the doors almost absolutely air-tight. I would especially warn the owner of a small home not to attempt to save money on weather strips, but to buy the best obtainable, if forced to economize, putting them only on the sides swept by prevailing winter winds. Comprehensive tests have shown the value of storm sash in no uncertain way. It was found, quite naturally, that the value of extra sash of this kind decreased with the tightness of the window sash. However, where cracks around the windows were of normal width, the application of storm sash materially reduced the leakage. It is obvious that, as leakage is influenced by the velocity of the wind blowing against a surface, storm sash are of greatest value on those sides of the house most assailed by winter winds. Also it was found in these tests that storm sash applied with four turn-buttons was much more effective than sash hung with hook and eye fittings. Such details are well worth careful consideration. (Fig. 4.)

**HEAT LOSS THROUGH ROOFS.** Heat naturally rises, and rooms consequently are hotter near the ceiling than at the floor level. By the same token, upper floors are warmer than those below. So maximum inside temperatures usually are found near the ceilings of top floor rooms. That means a greater difference between inside and outside temperatures at this level, and consequently there would be greater losses through a square foot of given roof construction than through a similar area of similar wall construction. Therefore it is of the greatest importance that roofs be insulated. If you are limited in funds, by all means insulate the roof even if you cannot afford to do a complete job on the walls.

If the attic is unused, it is cheaper, more effective and simpler to insulate the flat ceiling of the top floor than to apply insulation to the sloping roof. Let me give you some coefficients, which, you will remember, are only to be considered as relative values of heat transmission—the smaller the coefficient, the better the insulation. Assuming a ceiling of plaster on wood lath, under the ceiling joists, and no attic flooring, the coefficient would be 0.502. If  $\frac{1}{2}$ -in. soft felt or quilt insulation is placed between the joists, the coefficient drops to 0.187, and if flaked gypsum is used,  $3\frac{1}{4}$ -in. deep, it will be reduced to 0.112, which

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Country Club at Decatur, Ill. Aschauer & Waggoner, Architects. Moeller & Williby, Contractors. Finished with Cabot's DOUBLE-WHITE and Cabot's Creosote Shingle and Wood Stains.

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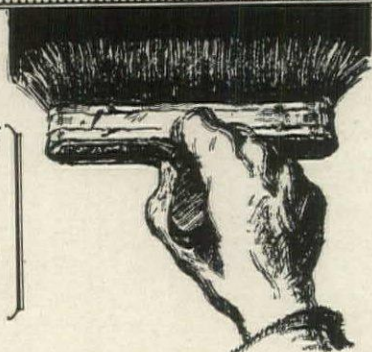
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means that this ceiling will pass only about  $1/5$  as much heat as the first; in other words, conserve  $4/5$  of the heat otherwise lost. If a 1-in. yellow pine floor is laid on the joists, the coefficient for the construction without insulation will be reduced to 0.234, effecting a 50% saving in heat. Naturally the addition of the floor to the last mentioned insulated construction will be of little value, only reducing the 0.112 coefficient to 0.103.

Of course there are many different kinds of insulation that can be applied to ceilings and roofs, and each may have special merits.

During infiltration tests made at the University of Wisconsin, some interesting facts developed. A plain brick wall may be pretty much of a sieve. A 13-in. plain brick wall, 9-ft. high and 20-ft. long, upon which a 30-mile wind is blowing, may pass in an hour, enough air to fill a room 24 feet wide, if this wall is one side of the room. A coat of plaster on the brick greatly reduces the infiltration, quite naturally, as it seals the pores and cracks in the brick. The same tests included a series to determine the merits of walls of careful construction with high-grade cement-lime mortar, and of several grades down to carelessly laid walls in which porous brick and lime mortar were used. The infiltration, in a 25-mile wind, ranged from 6 cubic feet of air per hour, through the best wall, up to 24 cubic feet per hour through the poorest construction.

While I realize that diagrams and graphs may be more readily understood by engineers and architects than by every-day home builders, I feel that they can be used to vividly tell a simple story. So I have made a little diagram (Fig. 5) to show the prospective home owner how the exposure of a room controls the amount of heat that must be supplied to it. The diagram shows a floor plan for a house located near New York. I have indicated the living room by a rectangle on one corner. When this room faces North and West (a)—the points from which the winter winds blow in this locality—110 square feet of radiation is required for this room. If the room faces North-West and South-East (b) the radiation is reduced to 105 square feet. With the exposures South-East and South-West (f), the radiation is only 79 square feet.

It is interesting to see what a wide variation there is between conditions in different cities. In Detroit, the worst exposure is only 10% more than the most favorable exposure. In Portland, Oregon, it doesn't make any difference which way a wall faces—all exposures are alike. Strange to say, the most

(Continued on page 39)

# Prevent Colds with Humidified Air—

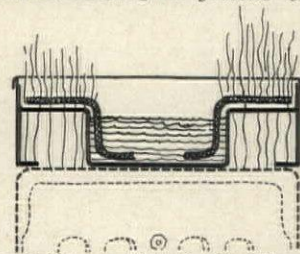


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### The Wick Does the Trick

Look at the picture—the heated air rising from the radiator absorbs gallons of water from the saturated wick. No other humidifier approaches the BUDDINGTON in simplicity and efficiency.



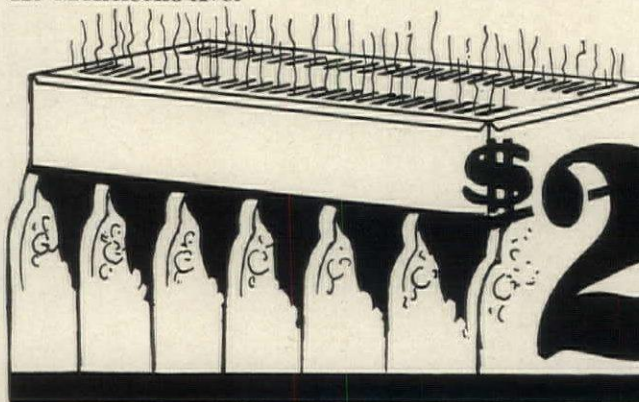
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**Tapered Asphalt Shingles**

## SOLID MASONRY WALLS FOR THE SMALL HOUSE

(Continued from page 11)

retaining heat. With these, in regions where winters are not long and rigorous, the need of furring is not so important.

Now I hear you say, "Mr. Jones, what kind of wall do you recommend?" I can tell you perfectly sincerely that I recommend them all. I will say that you are thoroughly justified in selecting the wall that you can afford, because everyone of these walls can be built so that it will last as long as you and your children live and longer, and every

one of them can be built so as to conserve heat to the maximum.

What I have tried to show you is that every one of these walls is a sort of compound design, each part of which requires expert knowledge in building, selection of materials, finish and workmanship. I have also tried to show you that the architectural forms, the massing and composition of the house proclaim aloud their need of certain kinds of wall material.

## WHAT IS HOME WITHOUT A BREAKFAST NOOK

(Continued from page 31)

The dining alcove, and by this we mean the small separate room, presents a slightly different problem. This demands a table and chairs, sometimes a serving table or corner cupboards as well. By all means let this furniture be in scale. A drop leaf table is ideal, and small, light chairs may be purchased either together with the table or separately. This makes a flexible arrangement, as for two or three people only one leaf need be raised, with the table set close against the window or wall.

If the alcove is shut off from the dining room or living room, perhaps from the kitchen also, although this is by no means necessary, it affords an opportunity for brilliant decorations not possible otherwise. Vivid, patterned wallpaper may be put on the walls in panels, against a background of some neutral color. Orange paper with brilliant birds or flowers against a cream background is lovely. The woodwork may be painted cream to match. Or the background and woodwork might be green with the wallpaper in some conventional or floral pattern. The idea is that while such decorations would be difficult to handle and somewhat unpleasant to live with for long periods and in larger rooms, the breakfast alcove being small may be changed at little expense when one becomes weary of it. If the walls of the kitchen are painted, the dining alcove may still be papered.

If possible, the breakfast nook should have east light. This is something ordinarily specified for the dining room, but as in nine cases out of ten we take our first meal not in the dining room but in the breakfast nook, or what serves for it, this is the place that should receive the morning sunshine. There is something soul-satisfying in partaking of coffee and toast—or what you will—in a room flooded with sunshine. Everyone admits this.

## THE SITE OF A SMALL HOUSE

(Continued from page 6)

hall and staircase on the side where the door is, and is not an interesting plan.

If one can afford to buy a lot which is large enough to have some possibility of interest, very charming effects may be produced by allowing the lot itself to say something about the shape of the house and its position. If it is sloping the garage may be put entirely under



the house either at the front or the back. If the land slopes up steeply from the street it is possible to have one more story on the front than on the back, making an entrance into a vestibule or reception room with stairs, all in front of the cellar (which would be dug out of the bank). The living rooms then would be on the floor above opening directly onto a terrace at the back. Or, if the conditions are such that it is advisable, the hill may be dug out behind. This would give protection from exposure in a bleak place and leave a garden at the back with steps up to a terrace behind. The usual idea and not a bad one is to build the house on the highest part of the lot and build a terrace in front of it. This terrace should be wide.

A sloping lot in some parts of the country as in New England may mean ledge. The question then is whether to blast out a cellar, not to have any cellar at all, or to use the ledge as a terrace locating the house perhaps in one corner of the lot so that the ledge comes out for the center of the garden. An irregularly shaped lot left over on the edges of a development may be given a delightful effect by building an ell at right angles to the main house with a sheltered garden in the angle. A lot in the bend of the road has some ad-

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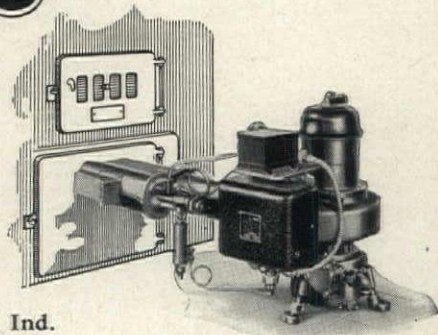
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vantages. There may be an outlook down a street. Place the house so that the living rooms look through this open place. Or it may be possible in such a lot to bend the house a little, not having it perfectly square in plan but having it opposite the bend of the road. This would depend very much on the exposure.

Plan to have the living rooms toward the south and west. Some people refuse to have the front door take up any room on the south side. Others feel that a front door on the north means cold

wind whenever the door is opened.

Well grown and handsome trees on the lot influence the house very much indeed. I have in mind a lot which had almost in its center a very beautiful oak tree. The house was built around it in such a way that it made a charming covered porch in the summer; the leaves, of course, being all gone in the winter, permitted plenty of sunshine, although the tree was on the south side of the house. I have also seen an apple tree used in this way for a porch for a summer house.



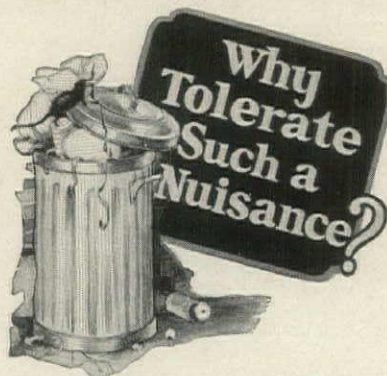
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22

## FIRST STATE YOUR PROBLEM

(Continued from page 19)

In listing the furniture necessary one immediately makes clear to the designer that there must be wall space for this equipment as well as electric service and adequate ventilation. Suppose one forgot to list many of these necessary elements. Could the designer be expected to solve your problem without these necessary data? Of course he could arrive at a solution, but would it be the right answer?

Let's take just one room and list a few of the necessary things that should be stated. The kitchen will be a good example. Must this kitchen have direct connection to the exterior? Must it be exposed on two sides? Must it have direct connection to the dining room, or must there be a breakfast room between? Must it be possible to go directly from the kitchen to the bath without passing through another room? Must there be a coal stove and an oil stove, or will a gas stove alone be sufficient? Must there be a closet in the kitchen? How much cabinet space is absolutely necessary? (Figure this carefully; almost always we build too little cabinet space.) Must there be a window over the sink? Do you have a definite kitchen arrangement in mind? What must the wall finish be? How high must the table top be? What type of floor finish do you desire? What size and type of refrigerator will you use? Where do you desire wall plugs and lights? These are only a few of the things that must be taken into account in relation to the kitchen alone. These are the type of things that must be stated very clearly before the problem can be really solved.

It is not difficult, I believe, for anyone at all acquainted with home building to see that it is comparatively easy once the problem is clearly and definitely stated to arrive at a really good solution. Certainly there is much less difficulty in arriving at a scheme that will be satisfactory and that will fully meet the requirements of the case. Then, too, with the problem stated, we have a yardstick with which to accurately gauge the fitness of any plan that we find.

Very often stating the problem includes many things that are not familiar to the man who builds a house only once in a lifetime. For instance, we must often take into consideration city ordinances and local laws. Thus it is wise to bring early into consultation an architect or someone else familiar with local conditions. Then, too, in

connection with the ordinary city lot, one of the most important points in stating your problem may be that the size of the house is limited in at least one dimension. Possibly the height, too, is limited. In some localities even the amount you spend is limited by local agreement or law. Stating the problem is no simple process, but it is absolutely essential.

## TO HOUSE THE LIBRARY WORTHILY

(Continued from page 18)

the woodwork. An interesting effect can sometimes be obtained by painting the inside of the shelves a contrasting color. Light colored shelves lined with red gold, for instance, would be attractive in a room where copper ornaments are used.

In a young boy's or girl's room and in the children's play room, a whole set of shelves is usually needed to take care of picture books, game books, school books, etc. These bookcases make a central spot of interest and color in the young person's room and encourage the habit of reading for pleasure as well as



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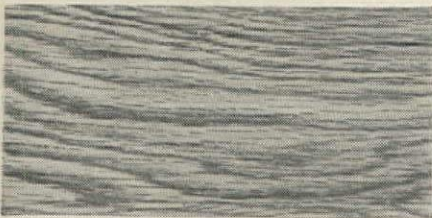


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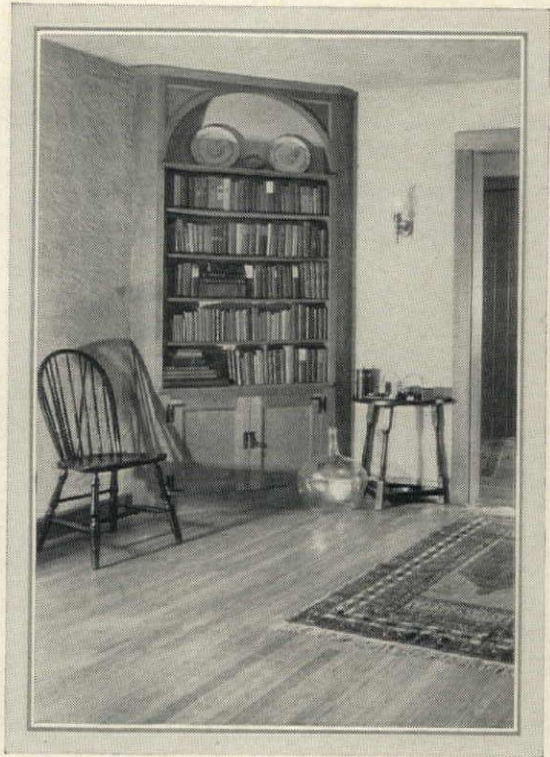
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The kitchen bookshelf is a great convenience to the cook and the housewife, and is often a source of inspiration as well as efficiency. The Home Making Center has had a tiled bookshelf built into its model kitchen as the illustration on page 18 shows. The most frequently used books are covered with oilcloth.

No matter what room they are in, bookshelves should always be placed where they look inviting. They are articles of use just as are pieces of furniture, and have most beauty when they are obviously usable with comfort. Bookcases in out of the way corners or behind pieces of furniture may be convenient for storing books not in great demand, but they forfeit all attractiveness and decorative possibilities. Chairs, good lights, and tables should be conveniently near the shelves so that books will be easy to find and to enjoy.

Bookshelves should be planned when the house is designed to secure the most attractive results. A rough estimate can be made of the size of the family library and adequate shelf space provided in the different rooms with extra allowance for gradual growth. Ten ordinary size books can be allowed to a foot of shelving.

The house that makes the most of the charm of books as decorations is, of

course, providing something more than attractive surroundings. Books make delightful decorations but they have additional values far beyond those of other decorations. While adding much to the beauty of surroundings, they are also

the source of relaxation, knowledge, and inspiration. More than any other factor, they help to make home life richer and fuller and to stimulate the individual development of each member of the family.

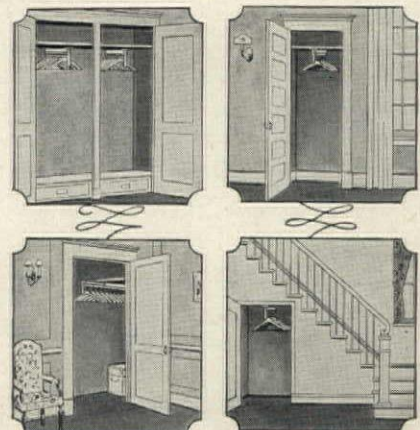
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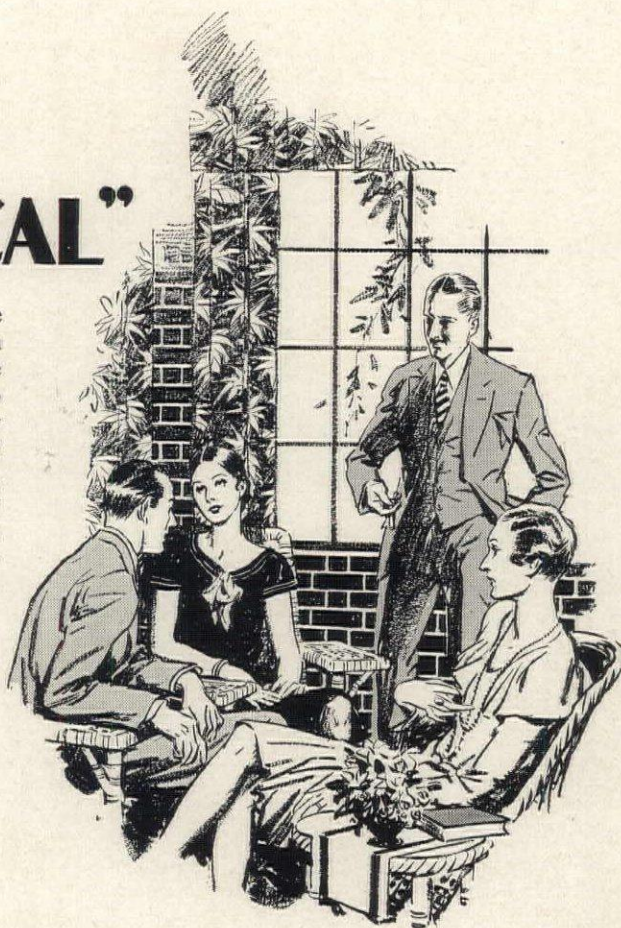
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## HEATING THE SMALL HOME

(Continued from page 33)

extreme variations are found in San Antonio, Texas, where the S. W. exposure is rated at 1.0, and a swing of only 45° to W. increases the radiation by 70%.

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In the next article we will take up the most elementary method of heating, commonly called the warm-air system.

## THE USE OF PAINT IN OLDEN TIMES

(Continued from page 24)

influence that was seen dotting the New England countryside—immaculate little clapboard houses gleaming white with paint and shuttered against the rigors of an intemperate climate. In the kitchens of these houses the hardy families as-

sembled around great brick or tiled ovens, above which were displayed charming bits of Delft, pewter, copper, and brass utensils. Their furniture was fashioned from the providential abundance of timber in the native woods, and gay coats of paint used to finish it. It was an age of simplicity, utility and comfort. In Massachusetts the earlier houses of the Puritans were prim almost to bareness, but this gradually gave way under the ebullient spirits of the Dutch and in the later examples we find an inspiring use of color. In Holland the members of the Delft Guild were making charming pottery in polychrome, and those same pure yellows, soft manganese and puce, beautiful blues and queer Delft greens were being used for furniture and fabrics in the Colonies of the new world.

Paneled rooms were the favorites for fine interiors then, just as they are today, except that the paneling was of simpler construction and design in keeping with a farm dwelling. The natural cleanliness and thrift of the New England housewife was as responsible for the paint which coated these walls as was her sense of beauty. And we should not now have in the American Wing of the Metropolitan Museum some fine examples of old paneling had not these homes been protected with paint.

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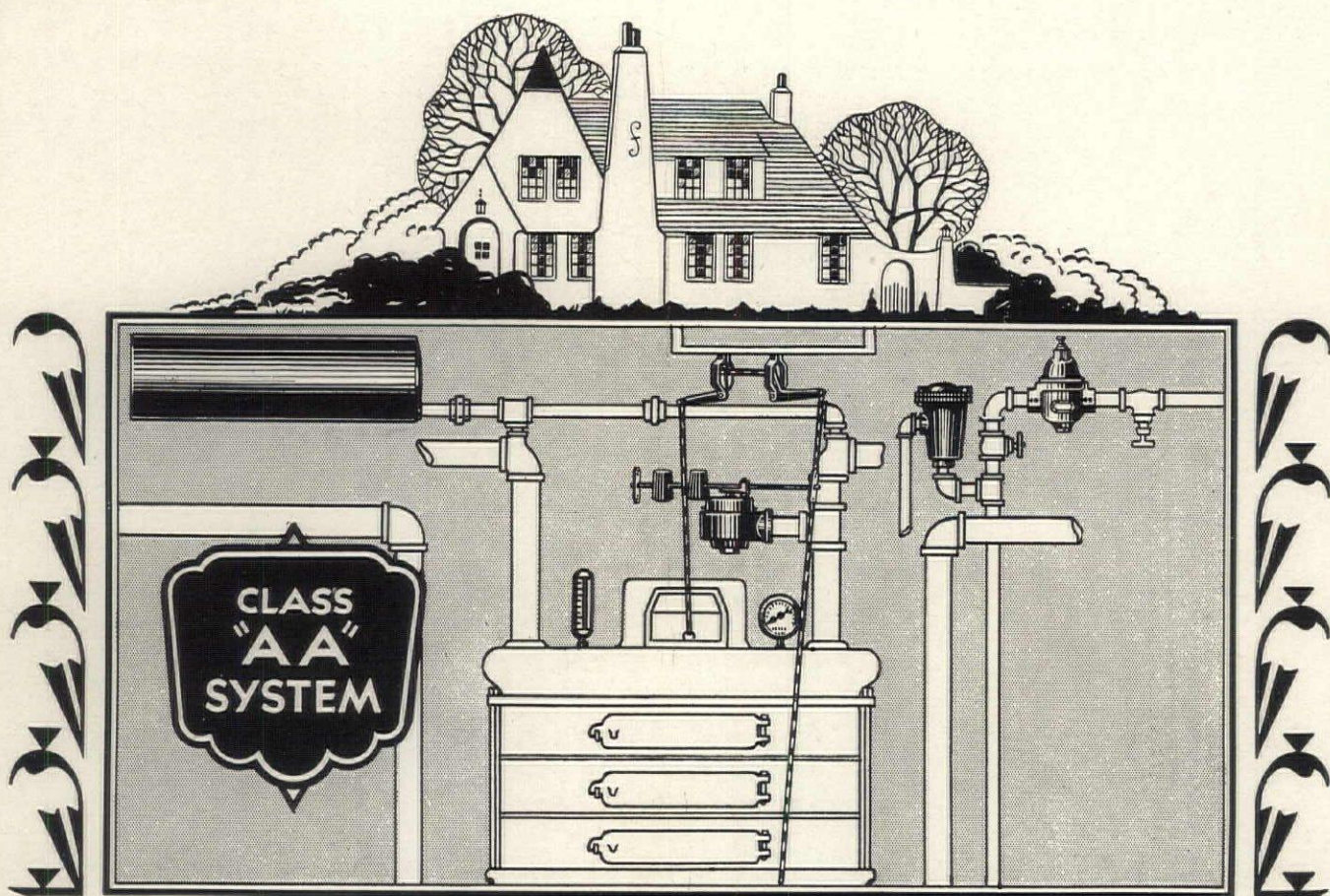
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